

Appointment

From: Dominguez, Alexander [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5CED433B4EF54171864ED98A36CB7A5F-DOMINGUEZ,]
Sent: 10/9/2017 4:00:23 PM
To: Dominguez, Alexander [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5ced433b4ef54171864ed98a36cb7a5f-Dominguez,]; Baptist, Erik [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=10fc1b085ee14c6cb61db378356a1eb9-Baptist, Er]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Motley, Judy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=Motley, Judy]
CC: Dravis, Samantha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ece53f0610054e669d9dffe0b3a842df-Dravis, Sam]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]
Subject: Volvo
Attachments: RE: Meeting with Volvo Group, Cummins and Navistar
Location: 5428 WJCN

Start: 10/16/2017 3:00:00 PM
End: 10/16/2017 4:00:00 PM
Show Time As: Busy

To: Dominguez, Alexander; Baptist, Erik; Gunasekara, Mandy; Motley, Judy
Cc: Dravis, Samantha; Bolen, Brittany
Subject: Volvo

Outside Attendees:
Steve Berry

Message

From: Eric Byer [ebyer@NACD.com]
Sent: 9/15/2017 11:02:14 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Annual Meeting

Ok, sounds great. Thanks!

In full disclosure, our annual meeting location got clobbered with the hurricane. Will know for sure if we are still able to go there by mid-week next week. Might have to move to San Antonio just not sure. Not sure if that move is a deal breaker for you but wanted to give you the head's up.

Hope all is well. EB

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Thursday, September 14, 2017 3:45 PM
To: Eric Byer <ebyer@NACD.com>
Subject: RE: Annual Meeting

I'm traveling to Germany at some point during Nov. 6 to 17. I don't believe I will be there the entire time, but I have a meeting to finalize that tomorrow afternoon. If I am here, I will absolutely attend and speak at the meeting. I just need to confirm my scheduling – will follow-up tomorrow.

From: Eric Byer [mailto:ebyer@NACD.com]
Sent: Thursday, September 14, 2017 3:11 PM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: RE: Annual Meeting

Checking back in on this. I know it has been a crazy week with Irma. Thanks

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Friday, September 08, 2017 9:46 AM
To: Eric Byer <ebyer@NACD.com>
Cc: Dominguez, Alexander <dominguez.alexander@epa.gov>
Subject: RE: Annual Meeting

I need to double check with the calendar. I'll follow-up later today -- I'm cc'ing Alex who will hold me accountable to that!

From: Eric Byer [mailto:ebyer@NACD.com]
Sent: Friday, September 8, 2017 9:13 AM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Annual Meeting

Sorry for pestering. Trying to get a draft of our agenda completed. Able to come to Naples assuming our hotel doesn't get swallowed up by Irma on November 13? Bring Surya and the kids!

Thanks,
EB

Message

From: Jeffry Muffat [Personal Email / Ex. 6]
Sent: 9/14/2017 12:00:02 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: William L. Wehrum [wwehrum@hunton.com]; cfontanesi@awma.org
Subject: A&WMA's Conference "Finding Common Ground on Climate Change Mitigation and Adaption" Scheduled for October 10th and 11th in Arlington VA

Mandy:

Thank you so much for agreeing to Keynote A&WMA's Conference on Climate Change. The Conference is scheduled for Oct 10-11, 2017 in Arlington, VA and promises to be a great opportunity to exchange meaningful information on the current thinking relative to climate change and how we can mitigate any adverse effects and adapt to the potential consequences. The Association values EPA's thinking and is excited to provide the forum for discussion to our membership and other parties involved in the discussion.

Bill Wehrum said that you planned to check with Administrator Pruitt one last time to see if he was available to Keynote and it would be great if he wanted to speak. However, our intent at this time is to list you in the Program at the Keynoter and then to send out a special mailing/notice announcing Administrator Pruitt as the Keynoter should he decide to speak.

Cindy Fontanesi from A&WMA Headquarters in Pittsburgh will be in touch with you today to work out the details.

Again, thank you so much for agreeing to speak at our upcoming Conference.

Jeff Muffat
Retired Manager of 3M Environmental Reg Affairs
Treasurer of Air & Waste Management Association
.

Bryan W. Shaw, Ph.D., P.E., *Chairman*
 Toby Baker, *Commissioner*
 Jon Niermann, *Commissioner*
 Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 23, 2017

Samuel Coleman, P.E.
 Acting Regional Administrator
 United States Environmental Protection Agency, Region 6
 1445 Ross Avenue, Suite 1200
 Dallas, Texas 75202-2733

RE: Updated State Designation Recommendations for the 2015 Ozone National Ambient Air Quality Standards (NAAQS)

Dear Administrator Coleman:

The United States Environmental Protection Agency (EPA) revised the primary and secondary eight-hour NAAQS for ozone to 0.070 parts per million, or 70 parts per billion (ppb), on October 1, 2015. Section 107(d) of the Federal Clean Air Act requires the governor of each state to submit to the EPA a list of all areas with a designation recommendation of attainment, nonattainment, or unclassifiable within one year of promulgation of a new or revised NAAQS. On September 30, 2016, the State of Texas submitted a designation recommendation to the EPA based on certified 2013 through 2015 data, the latest complete data available at the time that recommendations were due.

The EPA is expected to make designations by October 1, 2017, based on 2014 through 2016 monitoring data. The Texas Commission on Environmental Quality (TCEQ) is submitting this update to the September 2016 Texas recommendation considering the latest available, certified monitoring data for all areas in Texas from the 2014 through 2016 period. This takes into account the exceptional event demonstration related to El Paso currently pending before EPA. This is consistent with Texas' original designation recommendation that the recommendation be revised to attainment should any area in Texas monitor attainment based on 2016 data. Based on 2014 through 2016 monitoring data, Hood County is now attaining the 70 ppb standard with a design value of 69 ppb and should be designated as attainment. In addition, the TCEQ submitted an exceptional event demonstration for the El Paso UTEP (CAMS 12) monitoring site for a wildfire event that occurred on June 21, 2015, which supports an attainment designation for El Paso County.

The TCEQ has also identified at least one additional exceptional event day that affected the El Paso UTEP monitor in 2016 that further supports an attainment designation for El Paso County. Submittal of additional exceptional event demonstration packages for 2016 is not necessary to demonstrate attainment should the EPA concur with the demonstration already submitted. However, should the EPA disapprove the 2015 exceptional event, then the TCEQ is prepared to notify the EPA consistent with 40 Code of Federal Regulations §50.14(c)(2) Treatment of Data Influenced by Exceptional Events, Initial Notification of Potential Exceptional Event that at least one additional exceptional event demonstration submittal will be developed to further demonstrate that El Paso County is in attainment of the 2015 ozone NAAQS based on the 2016 monitoring design value when exceptional events are taken into consideration.

Acting Regional Administrator Sam Coleman

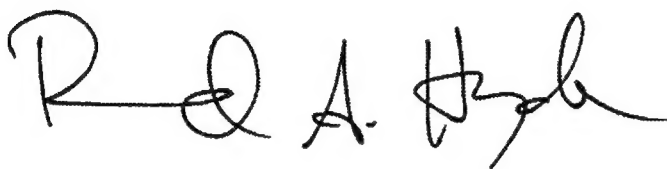
Page 2

August 23, 2017

Accordingly, Hood and El Paso Counties should be designated attainment for the 2015 ozone NAAQS.

If you have any questions or need additional information, please feel free to contact me at 512-239-3900.

Sincerely,

A handwritten signature in black ink, reading "R. A. Hyde". The signature is written in a cursive, flowing style. The "R" is large and loops around the "A", which is also large and loops around the "H". The "Y" is smaller and loops around the "D". The "e" is a simple, short stroke.

Richard A. Hyde, P.E., Executive Director
Texas Commission on Environmental Quality

Message

From: Ryan Cunius [rcunius@capitolhillcg.com]
Sent: 9/26/2017 10:00:32 PM
To: Dominguez, Alexander [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5ced433b4ef54171864ed98a36cb7a5f-Dominguez,]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: David Jory [djory@capitolhillcg.com]; Patterson, Ashley [apatterson@ameresco.com]
Subject: RE: Ameresco Meeting Request
Attachments: 2018 Draft Rule RVO Comments 08312017.pdf; RNG Coalition - Appendix A.PDF; RNG Coalition - Appendix B.PDF; RNG Coalition - Appendix C.PDF

Alex,

3:00 pm works for us.

Attendees will be:

- Ashley Patterson, Vice President, Government Relations & Public Policy, Ameresco
- David A. Cox, Director of Operations & General Counsel, Renewable Natural Gas Coalition
- David Jory, President, Capitol Hill Consulting Group.

Topics to be discussed:

- On July 5, EPA issued its 2018 draft rule Renewable Volume Obligation (RVO) for the Renewable Fuel Standard (RFS). The draft rule includes a 2018 RVO of 238 million gallons for Cellulosic Biofuel (D3 & D7 RINS).
- The Coalition for Renewable Natural Gas (RNG Coalition) is a non-profit association of companies and organizations dedicated to the advancement of renewable natural gas. Ameresco is a member of the RNG Coalition and is a leading producer of cellulosic biofuel under the RFS generating D3 RINs.
- Renewable Natural Gas has supplied 98% of the RFS's Cellulosic Biofuel market since it received the D3 RIN designation in July 2014.

Materials are attached to the email.

Let me know if you need anything else.

Best,
 Ryan

From: Dominguez, Alexander [mailto:dominguez.alexander@epa.gov]
Sent: Tuesday, September 26, 2017 5:24 PM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>; Ryan Cunius <rcunius@capitolhillcg.com>
Cc: David Jory <djory@capitolhillcg.com>; Patterson, Ashley <apatterson@ameresco.com>
Subject: RE: Ameresco Meeting Request

Hey Ryan,

Happy to set something up. Could you do 3:00 or 3:30 on Thursday, October 5th?

Additionally, I need a few pieces of information from you:

- List of attendees
- Description of topics to be discussed.
- Any relevant materials.

Best,
Alex

Alex Dominguez

*Policy Analyst to the Senior Advisors to
the Administrator for Air and Water*
U.S. Environmental Protection Agency

From: Gunasekara, Mandy
Sent: Tuesday, September 26, 2017 7:55 AM
To: Ryan Cunius <rcunius@capitolhillcg.com>
Cc: David Jory <djory@capitolhillcg.com>; Patterson, Ashley <apatterson@ameresco.com>; Dominguez, Alexander <dominguez.alexander@epa.gov>
Subject: Re: Ameresco Meeting Request

Hi Ryan,
I'd be happy to meet. I've CC'd Alex who can help figure out the logistics on my end.
Best,
Mandy

Sent from my iPhone

On Sep 25, 2017, at 5:22 PM, Ryan Cunius <rcunius@capitolhillcg.com> wrote:

Mandy,

My boss, David Jory, President of Capitol Hill Consulting Group, would like to request a meeting with you on behalf of Ameresco. They would like to discuss the 2018 RVO with you and will have the chief counsel of the Renewable Natural Gas Coalition in town to join the discussion as well. We are looking to meet on October 4th or 5th. Hope to hear back from you soon!

Best,

Ryan Cunius
Legislative Assistant
<[image002.jpg](#)>
Capitol Hill Consulting Group
Government Relations Professionals
499 S. Capitol Street, SW
Suite 608
Washington, DC 20003

Cell: (813) 713-5062
Office: (202) 488-0101
Web: capitolhillcg.com

<image004.jpg> <image006.jpg>

Message

From: KUNZ David [david.kunz@arkema.com]
Sent: 8/31/2017 2:21:54 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: FW: Arkema - Crosby, Texas

Mandy,

In case the earlier link I sent you is not working, please also try this link:

<http://www.arkema-americas.com/en/social-responsibility/incident-page-2/>

David

David E. Kunz
Arkema Inc.
Office: (202) 263-3491
Cell: (202) 257-1115
david.kunz@arkema.com
www.arkema.com



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From: KUNZ David
Sent: Thursday, August 31, 2017 10:06 AM
To: 'Gunasekara, Mandy' <Gunasekara.Mandy@epa.gov>
Subject: Arkema - Crosby, Texas

Mandy,

Hi. Fyi – Please see the link below for the latest information on Crosby, Texas.

<http://www.arkema-americas.com/en/social-responsibility/incident-page-2/>

This site will be updated as new information becomes available.

Rich Rennard, our senior executive on the ground is conducting a press conference as we speak

Please do not hesitate to contact me if you have any questions or if we can provide any additional information.

Thank you.

David

David E. Kunz

Arkema Inc.
Office: (202) 263-3491
Cell: (202) 257-1115
david.kunz@arkema.com
www.arkema.com



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Message

From: Keniece Barbee [kbarbee@corn.org]
Sent: 9/8/2017 2:06:07 PM
To: Dominguez, Alexander [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5ced433b4ef54171864ed98a36cb7a5f-Dominguez,]; Kyle Harris [kharris@corn.org]
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Biogenic CO2

Alex!

You are the best! Thank you so much for the flexibility.

Happy Friday and have a wonderful weekend.

Regards,

Keniece Barbee
 Assistant to President and C.E.O.
 Corn Refiners Association



1701 Pennsylvania Avenue, N.W.
 Suite 950
 Washington, DC 20006
 Main: (202) 331-1634
 Direct: (202) 534-3491
 Fax: (202) 331-2054
www.corn.org

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From: Dominguez, Alexander [mailto:dominguez.alexander@epa.gov]
Sent: Friday, September 8, 2017 10:05 AM
To: Keniece Barbee <kbarbee@corn.org>; Kyle Harris <kharris@corn.org>
Cc: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: RE: Biogenic CO2

Let's do Wednesday, September 20th at 10:00AM.

Conference Line: Personal Matters / Ex. 6
 Passcode: Personal Matters / Ex. 6

Anything else just let me know.

From: Keniece Barbee [mailto:kbarbee@corn.org]
Sent: Friday, September 8, 2017 9:52 AM
To: Dominguez, Alexander <dominguez.alexander@epa.gov>; Kyle Harris <kharris@corn.org>
Cc: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: RE: Biogenic CO2

Hi Alex,

Thank you so much for your quick response to Kyle, this is very important to us.

Unfortunately, John Bode will be in flight during the time you gave on Monday 9/18 and in an all-day Board Meeting on 9/19.

Is there any time between 3-5:00PM on Monday 9/18 OR Wednesday, 9/20, 10:00AM to 1:00PM that could possibly work for this call?

Regards,

Keniece Barbee
Assistant to President and C.E.O.
Corn Refiners Association



1701 Pennsylvania Avenue, N.W.
Suite 950
Washington, DC 20006
Main: (202) 331-1634
Direct: (202) 534-3491
Fax: (202) 331-2054
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From: Dominguez, Alexander [mailto:dominguez.alexander@epa.gov]
Sent: Friday, September 8, 2017 9:29 AM
To: Kyle Harris <kharris@corn.org>
Cc: Keniece Barbee <kbarbee@corn.org>; Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: RE: Biogenic CO2

Hey Kyle,

Happy to set something up. Could you do a call Monday, September 18th at 11:30AM or Tuesday, September 19th at 2:00PM?

Alex

Alex Dominguez

*Policy Analyst to the Senior Advisors to
the Administrator for Air and Water
U.S. Environmental Protection Agency*

From: Kyle Harris [<mailto:kharris@corn.org>]

Sent: Thursday, September 7, 2017 10:17 AM

To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>

Cc: Dominguez, Alexander <dominguez.alexander@epa.gov>; Keniece Barbee <kbarbee@corn.org>

Subject: RE: Biogenic CO2

Importance: High

Mandy,

I hope you were able to enjoy the Labor Day Weekend.

Thanks again for meeting with us on July 26th, we thought it was a very productive meeting and hope to maintain an open dialogue with you moving forward.

We were hoping to get a follow up call with you and your core decision makers on the calendar in the coming weeks as we work towards a resolution to the biogenic issue. We participated in EPA's Science Advisory Board Public Meeting last week in Arlington. Through both written and verbal comments we stated the need to place short cycle agriculture biomass on a separate track from woody biomass. We continue to think that Biogenic CO2 from agriculture crops should not and is not properly regulated at this point in time.

We were hoping to get a follow up call with you and your core decision makers on the calendar in the coming weeks as we work towards a resolution to the biogenic issue.

Please do not hesitate to reach out to me should you need any further information or clarification.

Thanks in advance,

Kyle

Kyle A. Harris, Esq.

Manager, Environmental Affairs/ Workplace Safety

Corn Refiners Association

www.corn.org

1701 Pennsylvania Ave NW

Suite 950, Washington, DC 20006

Office: (202) 534-3501

Cell: (410) 924-2629



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From: Kyle Harris
Sent: Thursday, August 24, 2017 11:44 AM
To: 'Gunasekara, Mandy' <Gunasekara.Mandy@epa.gov>
Cc: 'dominguez.alexander@epa.gov' <dominguez.alexander@epa.gov>; Keniece Barbee <kbarbee@corn.org>
Subject: RE: Biogenic CO2

Greetings Mandy,

I just wanted to follow up on my message below.

Thanks again for meeting with us on July 26th, we thought it was a very productive meeting and hope to maintain an open dialogue with you moving forward.

We were hoping to get a follow up call with you and your core decision makers on the calendar in the coming weeks as we work towards a resolution to the biogenic issue.

Please do not hesitate to reach out to me should you need any further information or clarification.

Thanks in advance,

Kyle

Kyle A. Harris, Esq.
Manager, Environmental Affairs/ Workplace Safety
Corn Refiners Association
www.corn.org
1701 Pennsylvania Ave NW
Suite 950, Washington, DC 20006
Office: (202) 534-3501
Cell: (410) 924-2629



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From: Kyle Harris
Sent: Thursday, August 10, 2017 9:45 AM
To: 'Gunasekara, Mandy' <Gunasekara.Mandy@epa.gov>
Cc: 'dominguez.alexander@epa.gov' <dominguez.alexander@epa.gov>; Keniece Barbee <kbarbee@corn.org>
Subject: RE: Biogenic CO2

Greetings Mandy,

Thanks again for meeting with us on July 26th, we thought it was a very productive meeting and hope to maintain an open dialogue with you moving forward.

We were hoping to get a follow up call with you and your core decision makers on the calendar in the coming weeks as we work towards a resolution to the biogenic issue.

Please do not hesitate to reach out to me should you need any further information or clarification.

Thanks in advance,

Kyle

Kyle A. Harris, Esq.
Manager, Environmental Affairs/ Workplace Safety
Corn Refiners Association
www.corn.org
1701 Pennsylvania Ave NW
Suite 950, Washington, DC 20006
Office: (202) 534-3501
Cell: (410) 924-2629



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From: Gunasekara, Mandy [<mailto:Gunasekara.Mandy@epa.gov>]
Sent: Thursday, June 15, 2017 1:03 PM
To: Kyle Harris <kharris@corn.org>
Cc: David M. (Max) Williamson <maxwilliamson@williamsonlawpolicy.com>; Dominguez, Alexander <dominguez.alexander@epa.gov>
Subject: RE: Biogenic CO2

Kyle,

Thank you for the update and I look forward to meeting again soon. I've cc'd Alex Dominguez who can help organize the logistics.

Best,
Mandy

From: Kyle Harris [<mailto:kharris@corn.org>]
Sent: Tuesday, June 13, 2017 3:03 PM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Cc: David M. (Max) Williamson <maxwilliamson@williamsonlawpolicy.com>
Subject: RE: Biogenic CO2
Importance: High

Mandy,

Your lawyers, the Department of Justice, have contacted us regarding our challenge to the Aircraft Rule, as a status report on our abeyance order is due to the DC Circuit June 28th. This presents a perfect opportunity to sit down and pick back up our conversation regarding the biogenic issue, and share with you our proposed resolution.

We would like to schedule a meeting at your convenience ahead of this June 28th deadline.

Best Regards,

Kyle

Kyle A. Harris, Esq.
Manager, Environmental Affairs/ Workplace Safety
Corn Refiners Association
www.corn.org
1701 Pennsylvania Ave NW
Suite 950, Washington, DC 20006
Office: (202) 534-3501
Cell: (410) 924-2629



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From: Kyle Harris
Sent: Tuesday, May 30, 2017 4:52 PM
To: 'Gunasekara, Mandy' <Gunasekara.Mandy@epa.gov>
Cc: David M. (Max) Williamson <maxwilliamson@williamsonlawpolicy.com>
Subject: RE: Biogenic CO2

Mandy,

I hope you found time to enjoy Memorial Day Weekend. I wanted to follow-up to see if there is anything else I can provide you with to resolve the biogenic issue. Again, we are hopeful for a prompt and permanent resolution to this matter without extended rulemaking and also end all litigation over the Aircraft Rule. We believe the strategy and vehicle discussed in our May 2nd meeting will be the most effective way of accomplishing this.

We would like to schedule a follow up meeting/call at your earliest convenience to further discuss. Additionally, please let me know when may be the most appropriate time to request a meeting between Biogenic CO2 Coalition member CEOs and Administrator Pruitt.

Best Regards,

Kyle

Kyle A. Harris, Esq.
Manager, Environmental Affairs/ Workplace Safety
Corn Refiners Association
www.corn.org
1701 Pennsylvania Ave NW
Suite 950, Washington, DC 20006
Office: (202) 534-3501



Cell: (410) 924-2629

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From: Gunasekara, Mandy [<mailto:Gunasekara.Mandy@epa.gov>]
Sent: Monday, May 08, 2017 4:53 PM
To: Kyle Harris <kharris@corn.org>
Cc: David M. (Max) Williamson <maxwilliamson@williamsonlawpolicy.com>
Subject: RE: Biogenic CO2

Thank you, Kyle. Appreciate the follow-up.
Best,
Mandy

From: Kyle Harris [<mailto:kharris@corn.org>]
Sent: Monday, May 8, 2017 4:50 PM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Cc: David M. (Max) Williamson <maxwilliamson@williamsonlawpolicy.com>
Subject: RE: Biogenic CO2

Mandy,

I wanted to follow up and confirm that you received the case studies that I sent last week. I can understand how busy you are- and just wanted to make sure they didn't fall unnoticed to the bottom of your email inbox! Attached here should be everything that I have sent your way (or handed in person) regarding Biogenic CO2. Additionally, please find our comments on the proposed significance rule, as it's our most thorough exposition of the legal arguments surrounding this issue.

Attached you will find:

- Letter sent to Administrator Pruitt upon his confirmation
- One-page overview of the Ag-based Biogenic CO2 issue
- Case Studies developed to frame permitting issues we face
- Comments filed on the Proposed Significance Rule
- Slide deck highlighting EPA Actions/Concerns

I hope you find this information helpful, please don't hesitate to reach out should you have any questions or concerns. Again, we look forward to maintaining an open dialogue and we hope to meet with you regarding next steps in the very near future.

Best Regards,

Kyle

Kyle A. Harris, Esq.

Manager, Environmental Affairs/ Workplace Safety

Corn Refiners Association

www.corn.org

1701 Pennsylvania Ave NW

Suite 950, Washington, DC 20006

Office: (202) 534-3501

Cell: (410) 924-2629



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From: Kyle Harris

Sent: Tuesday, May 02, 2017 4:29 PM

To: 'Gunasekara, Mandy' <Gunasekara.Mandy@epa.gov>

Subject: Biogenic CO2

Mandy,

Thank you for meeting with us today. Per our discussion, I wanted to forward you some 'case studies' that we have developed that put a story behind some of the permitting issues that the members of my association, and others in the coalition, have dealt with on a consistent basis.

I look forward to maintaining a dialogue moving forward- please do not hesitate to reach out should you need any further information. We look forward to next steps in getting this issue resolved.

Best Regards,

Kyle

Kyle A. Harris, Esq.

Manager, Environmental Affairs/ Workplace Safety

Corn Refiners Association

www.corn.org

1701 Pennsylvania Ave NW

Suite 950, Washington, DC 20006

Office: (202) 534-3501

Cell: (410) 924-2629



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Message

From: Thanjan, Dale: [Dale.D.Thanjan@p66.com]
Sent: 9/5/2017 6:46:44 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Phillips 66 R&D Initiatives

Hi Mandy. Thank you for taking the time to meet with NEDA/CAP on 8/25. It was good to visit with you afterwards regarding your interest in the Phillips 66 Research Center in Bartlesville, OK..

Our R&D team would appreciate the opportunity to provide you an overview. Would it be helpful to have an initial brief call to discuss our overall R&D program, and then follow-up with information of particular interest? As far as timing goes, does an initial conversation in a few weeks work for you?

These are just suggestions, we can definitely adjust to fit your needs. Our goal is to provide the right information at the desired depth, and be mindful of your time. Hope you have a great afternoon.

Regards,

Dale D. Thanjan

Director, Federal Government Affairs

O: (+1) 202.416.4592 | M: (+1) 202.420.9262 | E: dale.d.thanjan@p66.com

601 Pennsylvania Ave., NW | Suite 1150N | Washington, DC 20004

Phillips 66

Message

From: Burhop, Anna [anna.burhop@bracewell.com]
Sent: 8/23/2017 9:01:42 PM
To: Burhop, Anna [anna.burhop@bracewell.com]
Subject: Updated Contact Information
Attachments: Anna Burhop.vcf



Friends,
My updated contact information is attached.
Best,
Anna

.....
ANNA BURHOP

Principal

anna.burhop@policyres.com

T: +1.202.828.1728 | F: +1.800.404.3970

POLICY RESOLUTION GROUP | BRACEWELL LLP

2001 M Street NW, Suite 900 | Washington, D.C. | 20036-3310

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Contact

Full Name: Anna Burhop
Last Name: Burhop
First Name: Anna
Company: Bracewell LLP

Business Address: 2001 M Street NW Suite 900 Washington DC 20036

Business Phone: +1.202.828.1728

Mobile Phone:

Personal Matters / Ex. 6

Web Page: www.bracewell.com

E-mail: Anna.Burhop@bracewell.com

Message

From: Forman Matthew (FCA) [matthew.forman@fcagroup.com]
Sent: 8/29/2017 4:38:00 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: EPA hearing on Midterm Evaluation

Hi Mandy. In the past, a representative from FCA has testified in additon to our trade association. This time around we are planning on relying on our trade association to speak on our behalf unless you think it would be beneficial to the process to hear testimony from a specific company rep. Please let me know what you think.

Thanks,

Matt

Message

From: Lauren Sheehan [LSheehan@afpm.org]
Sent: 8/23/2017 8:47:38 PM
To: Lauren Sheehan [LSheehan@afpm.org]
Subject: Moving On

Friends and colleagues,

As some of you may know, tomorrow is my last day at AFPM. I have accepted a position with Valero's Federal Government Affairs team where I will continue to work on tax, environmental and fuels issues. It has been a pleasure working with you all and I am glad to be staying within the industry in this next chapter. As of September 5th, I can be reached at Lauren.Sheehan@valero.com.

For any AFPM-related business, including if you know of any good candidates for AFPM's government relations team, please contact Geoff Moody at GMoody@afpm.org.

I hope everyone has a great last few weeks of summer/recess!

Best,
Lauren

Lauren Sheehan
Senior Manager
Government Relations

American
Fuel & Petrochemical
Manufacturers
1667 K Street NW
Suite 700
Washington, DC 20006
202.457.0480 office
202.552.8487 direct
202.457.0486 fax
LSheehan@afpm.org

Message

From: Clint Woods [cwoods@csg.org]
Sent: 9/13/2017 3:19:57 PM
To: Clint Woods [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=userbe793c3a]
Subject: AAPCA 2017 Fall Business Meeting Details
Attachments: AAPCA 2017 Fall Business Meeting - Agenda -9-13-17.pdf; 2017 Fall Business Meeting Attendee List - Updated 9-13-2017.pdf

AAPCA 2017 Fall Meeting Attendees,

Thank you for your participation in the upcoming Association of Air Pollution Control Agencies' 2017 Fall Business Meeting, to be held in Raleigh, North Carolina on September 20 – 22. This email provides a handful of details which may be useful ahead of the meeting.

- Location and Transportation. AAPCA's 2017 Fall Business Meeting will be held at the DoubleTree by Hilton Hotel Raleigh - Brownstone -- University, located at 1707 Hillsborough Street in Raleigh, North Carolina. As the updated agenda (attached) indicates, the registration table will be located in the Washington/Jefferson Room Foyer on the second floor and most of the sessions will be held in the Washington/Jefferson Room, second floor. Maps, directions, transportation and other hotel details can be found here. There is no direct shuttle from the airport, but taxis are available (estimated \$32.00); if you drive, parking at the hotel is complimentary. Hotel check-in is at 3:00 PM and check-out is 11:00 AM. Links to nearby dining options are available here.
- Agenda. Attached is the current agenda for AAPCA's 2017 Fall Business Meeting. Electronic copies of all presentations will be available on AAPCA's website (www.cleanairact.org) following the meeting. As a reminder, the topical session on long-term and succession planning and the Opening Reception on Wednesday, September 20 are open to all attendees, as is programming on Thursday, September 21, while the programs on Friday, September 22 are limited to AAPCA members, governmental attendees, and multi-jurisdictional organization personnel. The AAPCA Board of Directors meeting on September 20 is intended for AAPCA Board Members or their proxies, but open to AAPCA Member staff and multi-jurisdictional organization personnel. AAPCA will send a separate email to Board Members and proxies with the agenda and other details for the Board Session.
- Registration. On-site meeting registration will be open Wednesday, September 20, from 10:00 AM – 5:30 PM, and Thursday, September 21. The registration desk will be located in the foyer outside the Washington/Jefferson Room on the 2nd floor of the hotel. Please stop by so we can welcome you and provide your nametag and meeting packet.
- Dress. Business casual attire is acceptable for all events. Weather forecasts in Raleigh, North Carolina predict sun from Wednesday to Friday (highs in the mid 80s, lows in the upper 50s/mid 60s) and a low likelihood of rain.
- Attendees. Attached to this email is a list of attendees, which includes more than 140 participants. Please let jsloan@csg.org know today if there are any edits to your contact information. If you are interested in receiving a certificate of attendance for the meeting, please contact Jason Sloan by September 29.
- Assistance. If you have any questions, need assistance, or an emergency arises during the event, please contact one of the AAPCA staff members listed below:
 - Clint Woods, AAPCA Executive Director, 540-455-5570 (cell), cwoods@csg.org
 - Jason Sloan, AAPCA Policy & Membership Associate, 931-797-0287 (cell), jsloan@csg.org
 - Gladys Parks, National Meeting Planner for The Council of State Governments, 859-552-1612 (cell), gparks@csg.org

We look forward to seeing you in Raleigh next week. Please let us know if you have any questions, concerns, or feedback. Thanks!

Clint Woods
 Executive Director
 Association of Air Pollution Control Agencies
 1776 Avenue of the States
 Lexington, KY 40511

859.244.8040 – office
cwoods@csg.org
<http://www.cleanairact.org>



ASSOCIATION OF AIR POLLUTION CONTROL AGENCIES

2017 FALL BUSINESS MEETING

September 20–22 | Doubletree by Hilton | Raleigh, North Carolina

AAPCA  ASSOCIATION OF AIR POLLUTION CONTROL AGENCIES

2017 FALL BUSINESS MEETING

September 20–22 | Doubletree by Hilton | Raleigh, North Carolina

Attendee List by State (updated 9/13/17)

ALABAMA

Jason Howanitz
Jefferson County Department of Health
(205) 930-1284
jason.howanitz@jcdh.org

Dale Hurst
Alabama Department of Environmental
Management
(334) 271-7882
adh@adem.alabama.gov

ARKANSAS

William Montgomery
Arkansas Department of Environmental Quality
(501) 682-0885
montgomery@adeq.state.ar.us

Stuart Spencer
Arkansas Department of Environmental Quality
(501) 682-0750
spencer@adeq.state.ar.us

CALIFORNIA

Matthew Lakin
U.S. EPA, Region 9
(415) 972-3851
lakin.matthew@epa.gov

Jeff McKay
Bay Area Air Quality Management District
(415) 749-8427
jmckay@baaqmd.gov

Brad Poiriez
Mojave Desert AQMD
(760) 245-1661
bradp@mdaqmd.ca.gov

FLORIDA

Robert Kappelmann
Florida Municipal Electric Association
(904) 307-6277
kapprl@juno.com

Preston McLane
Florida Department of Environmental Protection
(850) 717-9027
preston.mclane@dep.state.fl.us

Prashant Mehta
Kyra Solutions, Inc.
(863) 686-2271
pmehta@kyrasolutions.com

Chip Merriam
Orlando Utilities Commission
(407) 434-2201
cmerriam@ouc.com

Sterlin Woodard
Environmental Protection Commission of
Hillsborough County
woodard@epchc.org

GEORGIA

Karen Hays
Georgia Environmental Protection Division
(404) 363-7016
karen.hays@dnr.ga.gov

John Hornback
Metro 4 - SESARM
(404) 361-4000
hornback@metro4-sesarm.org

Carol Kemker
U.S. EPA, Region 4
(404) 562-8975
kemker.carol@epa.gov

Byeong-Uk Kim
Georgia Environmental Protection Division
(404) 362-2526
byeong.kim@dnr.ga.gov

Dika Kuoh
Georgia Environmental Protection Division
(404) 363-7115
dika.kuoh@dnr.ga.gov

Carroll "Mack" McGuffey
Troutman Sanders LLP
(404) 885-3698
mack.mcguiffey@troutmansanders.com

ILLINOIS
Douglas Aburano
U.S. EPA, Region 5
(312) 353-6960
aburano.douglas@epa.gov

Zac Adelman
Lake Michigan Air Directors Consortium
(LADCO)
(847) 720-7880
adelman@ladco.org

INDIANA
Keith Baugues
Indiana Department of Environmental
Management
(317) 232-8222
kbaugues@idem.in.gov

Keith Belton
Manufacturing Policy Initiative, Indiana
University School of Public and Environmental
Affairs
kebelton@iu.edu

KENTUCKY
Sean Alteri
Kentucky Division for Air Quality
(502) 564-3999
sean.alteri@ky.gov

Paul Aud
Louisville Metro Air Pollution Control District
(502) 574-7234
paul.aud@louisvilleky.gov

Jarrold Bell
Kentucky Division for Air Quality
(502) 564-3999
jarrod.bell@ky.gov

Melissa Duff
Kentucky Division for Air Quality
(502) 564-3999
melissa.duff@ky.gov

Byron Gary
Louisville Metro Air Pollution Control District
(502) 574-7253
byron.gary@louisvilleky.gov

Rachael Hamilton
Louisville Metro Air Pollution Control District
(502) 574-5218
rachael.hamilton@louisvilleky.gov

Kyle Hancock
AAPCA
ktha223@g.uky.edu

Ben Matar
Kentucky Division for Air Quality
(502) 564-3999
benjamin.matar@ky.gov

Gladys Parks
The Council of State Governments
(859) 244-8018
gparks@csg.org

Jason Sloan
AAPCA
(859) 244-8043
jsloan@csg.org

Clint Woods
AAPCA
(859) 244-8040
cwoods@csg.org

LOUISIANA
Vivian Aucoin
Louisiana Department of Environmental Quality
(225) 219-3482
vivian.aucoin@la.gov

Delveccio Brown
Louisiana Department of Environmental Quality
(225) 219-3486
delveccio.brown@la.gov

Vennetta Hayes
Louisiana Department of Environmental Quality
(225) 219-3412
vennetta.hayes@la.gov

Kelly Petersen
Louisiana Department of Environmental Quality
(225) 205-7127
kelly.petersen@la.gov

Michael Vince
CenSARA
(225) 620-6263
mvince@censara.org

MAINE
Marc Cone
Maine Department of Environmental Protection
(207) 287-1932
marc.a.cone@maine.gov

Eric Kennedy
Maine Department of Environmental Protection
(207) 287-5412
eric.kennedy@maine.gov

MARYLAND
Julie McDill
MARAMA
(443) 901-1882
jmcdill@marama.org

MISSISSIPPI
Melissa Fortenberry
Mississippi Department of Environmental
Quality
(601) 961-5556
mfortenberry@mdeq.ms.gov

Keith Head
Mississippi Department of Environmental
Quality
(601) 961-5171
khead@mdeq.ms.gov

Chad LaFontaine
Mississippi Department of Environmental
Quality
(601) 961-5707
clafontaine@mdeq.ms.gov

NEW MEXICO
Danny Nevarez
City of Albuquerque
(505) 768-2639
dnevarez@cabq.gov

NORTH CAROLINA
Michael Abraczinskas
North Carolina Division of Air Quality
(919) 707-8401
michael.abraczinskas@ncdenr.gov

Tom Anderson
North Carolina Division of Air Quality
tom.anderson@ncdenr.gov

Minor Barnette
Forsyth County
(336) 703-2441
barnetwm@forsyth.cc

Robin Barrows
North Carolina Division of Air Quality
robin.barrows@ncdenr.gov

Andy Bollman
North Carolina Division of Air Quality
andrew.bollman@ncdenr.gov

Megan Brachtl
U.S. Environmental Protection Agency
(919) 541-2648
brachtl.megan@epa.gov

Dan Costa
U.S. Environmental Protection Agency
(919) 541-2532
costa.dan@epa.gov

John Evans
North Carolina Division of Air Quality
john.c.evans@ncdenr.gov

Gabby Fekete
U.S. Environmental Protection Agency
(919) 541-3537
fekete.gabrielle@epa.gov

Tyler Fox
U.S. Environmental Protection Agency
fox.tyler@epa.gov

Benjamin Garwood
U.S. Environmental Protection Agency
(919) 541-1358
garwood.ben@epa.gov

Joanna Gmyr
U.S. Environmental Protection Agency
(919) 541-9782
gmyr.joanna@epa.gov

James Hatfield
U.S. EPA Office of Inspector General
(919) 541-1030
hatfield.jim@epa.gov

Paula Hemmer
North Carolina Division of Air Quality
(919) 707-8708
paula.hemmer@ncdenr.gov

Tracey Holloway
North Carolina Department of Environmental
Quality
(919) 707-8665
tracey.holloway@ncdenr.gov

Sheila Holman
North Carolina Department of Environmental
Quality
(919) 707-8665
sheila.holman@ncdenr.gov

Brenda Holmes
City of Winston-Salem
(336) 734-1304
brendahh@cityofws.org

Richard Jones
U.S. Environmental Protection Agency
(919) 541-5358
jones.richard@epa.gov

Nancy Jones
North Carolina Division of Air Quality
nancy.jones@ncdenr.gov

Rhea Jones
U.S. Environmental Protection Agency
(919) 541-2940
jones.rhea@epa.gov

Peter Keller
U.S. Environmental Protection Agency
(919) 541-2065
keller.peter@epa.gov

Vera Kornylak
U.S. Environmental Protection Agency
(919) 541-4067
kornylak.vera@epa.gov

Andrew Lavenburg
U.S. Environmental Protection Agency
(919) 541-1871
lavenburg.andrew@epa.gov

Patrick Lessard
U.S. Environmental Protection Agency
(919) 541-5383
lessard.patrick@epa.gov

Michael Ling
U.S. Environmental Protection Agency
(919) 541-4729
ling.michael@epa.gov

Jill Lucas
North Carolina Division of Air Quality
jill.lucas@ncdenr.gov

Joe Mangino
U.S. Environmental Protection Agency
mangino.joseph@epa.gov

Tammy Manning
North Carolina Division of Air Quality
(919) 707-8717
tammy.manning@ncdenr.gov

Sushma Masemore
North Carolina Division of Air Quality
(919) 707-8700
sushma.masemore@ncdenr.gov

Scott Mathias
U.S. Environmental Protection Agency
(919) 541-5310
mathias.scott@epa.gov

Renee McGhee-Lenart
U.S. Environmental Protection Agency
(913) 551-7534
mcghee-lenart.renee@epa.gov

Bradley McLamb
North Carolina Division for Air Quality
bradley.mclamb@ncdenr.gov

Corey Mocka
U.S. Environmental Protection Agency
(919) 541-5142
mocka.corey@epa.gov

Jonathan Navarro
North Carolina Division of Air Quality
jonathan.navarro@ncdenr.gov

Greg Nizich
U.S. Environmental Protection Agency
(919) 541-3078
nizich.greg@epa.gov

Stephen Page
U.S. EPA OAR/OAQPS/IO
(919) 541-5616
page.steve@epa.gov

Lars Perlmutter
U.S. Environmental Protection Agency
(919) 541-3037
perlmutter.lars@epa.gov

Michael Pjetraj
North Carolina Division of Air Quality
(919) 707-8497
michael.pjetraj@ncdenr.gov

Raj Rao
U.S. Environmental Protection Agency
(919) 541-5344
rao.raj@epa.gov

Virginia Raps
U.S. Environmental Protection Agency
(919) 541-4383
raps.virginia@epa.gov

Leslie Rhodes
Mecklenburg County Air Quality
(704) 336-5430
leslie.rhodes@mecklenburgcountync.gov

Kay Roberts
North Carolina Division of Air Quality
kay.roberts@ncdenr.gov

Juan Santiago
U.S. Environmental Protection Agency
(919) 541-1084
santiago.juan@epa.gov

Elizabeth Selbst
U.S. Environmental Protection Agency
(919) 541-3918
selbst.elizabeth@epa.gov

Stephen Senter
U.S. Environmental Protection Agency
(919) 541-3042
senter.stephen@epa.gov

Mia South
U.S. Environmental Protection Agency
(919) 541-5550
south.mia@epa.gov

Joette Steger
North Carolina Division of Air Quality
joette.steger@ncdenr.gov

Gregory Stella
Alpine Geophysics, LLC
(828) 675-9045
gms@alpinegeophysics.com

Randy Strait
North Carolina Division of Air Quality
(919) 707-8721
randy.strait@ncdenr.gov

Elliot Tardif
North Carolina Division of Air Quality
(919) 707-8483
elliott.tardif@ncdenr.gov

Rahul Thaker
North Carolina Division of Air Quality
rahul.thaker@ncdenr.gov

Donald van der Vaart
North Carolina Division of Air Quality
donald.vandervaat@ncdenr.gov

Cheryl Vetter
U.S. Environmental Protection Agency
(919) 541-4391
vetter.cheryl@epa.gov

Nealson Watkins
U.S. EPA OAQPS, AQAD, AAMG
(919) 541-5522
watkins.nealson@epa.gov

Richard Wayland
U.S. Environmental Protection Agency
(919) 541-4603
Wayland.Richard@epa.gov

Chris Werner
U.S. Environmental Protection Agency
(919) 541-5133
werner.christopher@epa.gov

Wendy Wierzbicki
U.S. Environmental Protection Agency
(919) 541-4100
wierzbicki.wendy@epa.gov

William Willets
North Carolina Division of Air Quality
william.willeys@ncdenr.gov

Nick Witcraft
North Carolina Division of Air Quality
nick.witcraft@ncdenr.gov

Anna Wood
U.S. Environmental Protection Agency
(919) 541-3604
wood.anna@epa.gov

Stan Young
CGStat
(919) 782-2759
genetree@bellsouth.net

NORTH DAKOTA

Chuck Hyatt
North Dakota Department of Health
(701) 328-5188
chvatt@nd.gov

OHIO

Richard Brewer
Duke Energy
(513) 287-3604
dick.brewer@duke-energy.com

SOUTH CAROLINA

Veronica Barringer
South Carolina Department of Health & Environmental Control
barrinv@dhec.sc.gov

Robbie Brown
South Carolina Department of Health & Environmental Control
brownrj@dhec.sc.gov

Keith Frost
South Carolina Department of Health & Environmental Control
(803) 898-4115
frostrk@dhec.sc.gov

Steve McCaslin
South Carolina Department of Health & Environmental Control
(803) 898-3869
mccaslsd@dhec.sc.gov

Rhonda Thompson
South Carolina Department of Health & Environmental Control
thompsrb@dhec.sc.gov

TENNESSEE

James Johnston
Tennessee Division of Air Pollution Control
(615) 253-7319
james.johnston@tn.gov

Lynne Liddington
Knox County Air Quality Management
(865) 215-5914
lliddington@aqm.co.knox.tn.us

TEXAS

Brian Foster
Texas Commission on Environmental Quality
(512) 239-1930
brian.foster@tceq.texas.gov

Steve Hagle
Texas Commission on Environmental Quality
(512) 239-1295
steve.hagle@tceq.texas.gov

Susana Hildebrand
Vistra Energy
(512) 349-6467
susana.hildebrand@vistraenergy.com

Wren Stenger
U.S. EPA, Region 6
stenger.wren@epa.gov

VIRGINIA

Mark Anderson
Stateside Associates
(703) 525-7466
mda@stateside.com

Robert Bessette
Council of Industrial Boiler Owners
(540) 349-9043
bessette@cibo.org

Jonathan Gledhill
Policy Navigation Group
(703) 280-8965
jgledhill@policynavigation.com

Theresa Pugh
Theresa Pugh Consulting, LLC
(703) 507-6843
pugh@theresapughconsulting.com

Leslie Ritts
NEDA/CAP
(703) 823-2292
lsritts@rittslawgroup.com

WASHINGTON, D.C.
Brittany Bolen
U.S. EPA Office of Policy
(202) 564-3291
bolen.brittany@epa.gov

Margaret Caravelli
Balch & Bingham LLP
(202) 661-6342
mcaravelli@balch.com

Al Collins
Occidental Petroleum Corporation
(202) 857-3076
al_collins@oxy.com

Samantha Dravis
U.S. EPA Office of Policy
(202) 564-3656
dravis.samantha@epa.gov

Russell Frye
FryeLaw PLLC
(202) 302-7321
rfrye@fryelaw.com

Mandy Gunasekara
U.S. Environmental Protection Agency
(202) 564-2314
gunasekara.mandy@epa.gov

Timothy Hunt
American Forest & Paper Association
American Wood Council
(202) 463-2588
tim_hunt@afandpa.org

Robert Kaufmann
Koch Industries
robert.kaufmann@kochps.com

John Kinsman
Edison Electric Institute
(202) 508-5711
jkinsman@eei.org

Mary Neumayr
White House Council on Environmental Quality
mary.b.neumayr@ceq.eop.gov

Kelly Poole
The Environmental Council of States (ECOS)
(202) 266-4939
kpooles@ecos.org

Jason Smith
Edison Electric Institute
(202) 508-5710
jsmith@eei.org

Joseph Stanko
Hunton & Williams
(202) 955-1529
jstanko@hunton.com

Jeb Stenhouse
U.S. EPA Office of Atmospheric Programs
(202) 343-9781
stenhouse.jeb@epa.gov

Patrick Traylor
U.S. EPA Office of Enforcement and
Compliance Assurance
traylor.patrick@epa.gov

Richard Yamada
U.S. EPA Office of Research and Development
(202) 564-6620
yamada.richard@epa.gov

WEST VIRGINIA

Renu Chakrabarty
West Virginia Division of Air Quality
(304) 926-0499
renu.m.chakrabarty@wv.gov

Laura Crowder
West Virginia Division of Air Quality
(304) 926-0499
Laura.M.Crowder@wv.gov

Dave Flannery
Steptoe & Johnson PLLC
(304) 353-8171
dave.flannery@steptoe-johnson.com

WYOMING

Lori Bocchino
Wyoming Department of Environmental
Quality, Air Quality Division
(307) 777-8578
lori.bocchino@wyo.gov

Nancy Vehr
Wyoming Department of Environmental
Quality, Air Quality Division
(307) 777-3746
nancy.vehr1@wyo.gov



AAPCA ASSOCIATION OF AIR POLLUTION CONTROL AGENCIES

2017 FALL BUSINESS MEETING

September 20–22 | Doubletree by Hilton | Raleigh, North Carolina

Agenda (as of 9/13/2017)

Wednesday, September 20 (Washington/Jefferson Room, 2nd Floor, unless otherwise noted)

10:00 AM – 5:30 PM **Registration, Washington/Jefferson Room Foyer, 2nd Floor**

1:00 – 3:25 PM **Topical Session: Long-term and Succession Planning – *Moderated by Lynne Liddington, Knox County Air Quality Management***
(open to all attendees)

- Renu Chakrabarty, West Virginia DEP
- Preston McLane, Florida DEP
- Brenda Holmes, City of Winston-Salem, Human Resources Department
- Rachael Hamilton, Louisville APCD

3:30 – 5:30 PM **AAPCA Air Directors/Board Business Session**
(Board members or their designees)

6:00 – 7:15 PM **Opening Reception** (cash bar and hors d'oeuvres; open to all attendees),
Harvest Grille (Lobby Level)

Thursday, September 21 (All sessions held in the Washington/Jefferson Room, 2nd Floor, unless otherwise noted, and **open to all attendees**)

8:00 AM **Breakfast Buffet, Washington/Jefferson Room Foyer, 2nd Floor**

8:30 AM **Welcome/Opening Remarks**

- Sheila Holman, Assistant Secretary for the Environment, North Carolina DEQ, and other AAPCA Leadership

8:45 – 9:45 AM **2017 AAPCA Best Practice Presentations – *Moderated by Stuart Spencer, Arkansas DEQ, and Lynne Liddington, Knox County Air Quality Management***

- NAAQS Exceedance Reports
 - Byeong-Uk Kim, Georgia EPD
- Standardized Pollutants of Concern Tables
 - Benjamin Matar, Kentucky DAQ
- Standardization of an Engineer's Notebook for Title V Permitting
 - Lori Bocchino, Wyoming DEQ

9:45 – 10:30 AM **EPA Air and Radiation Priorities/Ozone Cooperative Compliance Task Force – *Moderated by Stuart Spencer, Arkansas DEQ***

- Mandy Gunasekara, U.S. EPA, Senior Advisor for Air and Radiation



ASSOCIATION OF AIR POLLUTION CONTROL AGENCIES

2017 FALL BUSINESS MEETING

September 20–22 | Doubletree by Hilton | Raleigh, North Carolina

- | | |
|------------------|--|
| 10:30 – 10:45 AM | Break |
| 10:45 – 11:30 AM | NAAQS/SIP/Permitting Updates – <i>Moderated by Sean Alteri, Kentucky DAQ</i> <ul style="list-style-type: none"> • Anna Marie Wood, U.S. EPA, Air Quality Policy Division |
| 11:30 – 12:30 PM | Future of Interstate Transport – <i>Moderated by Mike Abraczinskas, North Carolina DAQ</i> <ul style="list-style-type: none"> • Gregory Stella, Alpine Geophysics, LLC • Chip Merriam, Orlando Utilities Commission • James Johnston, Tennessee DEC • Sean Alteri, Kentucky DAQ |
| 12:30 – 1:30 PM | Lunch with Keynote Speaker, Roosevelt Room (2nd Floor) – <i>Introduction by Keith Baugues, Indiana DEM</i> <ul style="list-style-type: none"> • Keith Belton, Manufacturing Policy Initiative, Indiana University School of Public and Environmental Affairs |
| 1:30 – 2:15 PM | Clean Air Act Legal Updates – <i>Moderated by James Johnston, Tennessee DEC</i> <ul style="list-style-type: none"> • Carroll "Mack" W. McGuffey III, Troutman Sanders LLP |
| 2:15 – 3:15 PM | Modeling & Monitoring Updates – <i>Moderated by Chuck Hyatt, North Dakota DOH</i> <ul style="list-style-type: none"> • Tyler Fox, U.S. EPA, Air Quality Assessment Division • Neilson Watkins, U.S. EPA, Air Quality Assessment Division |
| 3:15 – 3:30 PM | Break |
| 3:30 – 4:45 PM | Other U.S. EPA Office Updates – <i>Moderated by Steve Hagle, Texas CEQ</i> <ul style="list-style-type: none"> • Office of Enforcement and Compliance Assurance Updates <ul style="list-style-type: none"> ◦ Patrick Traylor, Deputy Assistant Administrator • Office of Research and Development Updates <ul style="list-style-type: none"> ◦ Richard Yamada, Deputy Assistant Administrator • Office of Inspector General Overview and Current Work <ul style="list-style-type: none"> ◦ James L. Hatfield, Director, Air Evaluations |
| 4:45 – 5:30 PM | SO₂ Modeling vs. Monitoring Issues & Designations – <i>Moderated by Preston McLane, Florida DEP</i> <ul style="list-style-type: none"> • Anna Marie Wood and Chet Wayland, U.S. EPA, Office of Air Quality Planning and Standards • Dale Hurst, Alabama DEM • Stuart Spencer, Arkansas DEQ |

Dinner on your own



AAPCA ASSOCIATION OF AIR POLLUTION CONTROL AGENCIES

2017 FALL BUSINESS MEETING

September 20–22 | Doubletree by Hilton | Raleigh, North Carolina

Friday, September 22 (All sessions held in the Washington/Jefferson Room, 2nd Floor, unless otherwise noted, and **Closed session**, limited to AAPCA members and governmental attendees)

- | | |
|------------------|--|
| 8:00 – 8:45 AM | Committee Breakout Breakfast, <u>Lincoln Room (2nd Floor)</u> <ul style="list-style-type: none"> • Tables are labeled with each of AAPCA's 11 technical committees – AAPCA members and governmental attendees are encouraged to eat with a committee of interest. |
| 8:45 – 9:15 AM | Combined Air Emissions Reporting Updates <ul style="list-style-type: none"> • Tammy Manning, North Carolina DEQ • Joseph Mangino, U.S. EPA, Air Quality Assessment Division |
| 9:15 – 10:00 AM | Regulatory Reform Roundtable – <i>Moderated by Marc Cone, Maine DEP</i> <ul style="list-style-type: none"> • Samantha Dravis, U.S. EPA, Senior Policy Counsel to the Administrator and Associate Administrator for Policy • Brittany Bolen, U.S. EPA, Senior Deputy Associate Administrator, Office of Policy |
| 10:00 – 10:10 AM | Break |
| 10:10 – 11:00 AM | U.S. EPA Regional Roundup – <i>Moderated by Vivian Aucoin, Louisiana DEQ</i> <ul style="list-style-type: none"> • Carol Kemker, Deputy Director, Air, Pesticides, and Toxics Management Division, U.S. EPA Region 4 • Douglas Aburano, Chief, Attainment Planning and Maintenance Section, Air Programs Branch, U.S. EPA Region 5 • Wren Stenger, Director, Multimedia Division, U.S. EPA Region 6 • Matthew Lakin, Acting Deputy Director, Air Division, U.S. EPA Region 9 |
| 11:00 – 11:40 AM | White House Council on Environmental Quality Updates – <i>Moderated by Melissa Fortenberry, Mississippi DEQ</i> <ul style="list-style-type: none"> • Mary Neumayr, Chief of Staff |
| 11:40 – 12:25 PM | Member Roundtable: Doing More With the Same (Or Less)?: Air Agency Organization & Efficiency – <i>Moderated by Minor Barnette, Forsyth County Office of Environmental Assistance and Protection</i> <ul style="list-style-type: none"> • Nancy Vehr, Wyoming DEQ • Preston McLane, Florida DEP • Karen Hays, Georgia EPD • Rhonda Thompson, South Carolina DHEC |
| 12:30 PM | AAPCA Members-Only Lunch & Meeting Debrief, <u>Lincoln Room (2nd Floor)</u> |

Message

From: David Fialkov [dfialkov@natso.com]
Sent: 5/17/2017 2:55:58 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Meeting at 2:30 tomorrow

Mandy,

We very much look forward to meeting with you and your team tomorrow (Wednesday) afternoon. Is there a phone number I should call when we arrive or can I just give the folks at the security desk your name and they will handle from there?

Again appreciate you fitting us in with such a busy schedule.

--

David H. Fialkov
Vice President, Government Relations
Legislative and Regulatory Counsel
NATSO, Representing America's Travel Centers and Truckstops
dfialkov@natso.com
(703) 739 - 8501

Message

From: Gov Workforce Performance & Responding to EO [Training@GovernmentWorkforce.PotomacForum.org]
Sent: 6/14/2017 3:34:00 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: [SPAM] June 28th - Now 14 Gov Leaders to Speak: Managing Gov Performance & Implementing EO Workforce Requirements

<p>Workforce Requirements of the President's Executive Order 13781 Training Workshop June 28, 2017</p> <p><i>Confirmed Speakers</i> Terry Gerton President & CEO National Academy of Public Administration (NAPA)</p> <p>---</p> <p>Bob Corsi Secretary of Board of Directors Senior Executives Association (SEA) Former Assistant Deputy Chief of Staff for Manpower, Personnel and Services Headquarters, U.S. Air Force</p> <p>---</p> <p>Rebecca Ayers Performance Management Solutions, OPM</p> <p>---</p> <p>Tom Gilbert Assistant Director of Strategic Issues, GAO</p> <p>---</p> <p>Deb Tomchek</p>	<p>Improving Performance - Workshop Not For Just Human Capital - Please Review and Forward to Your Government Executives, Managers and Staff Who Play a Part in Meeting the Workforce Requirements of the President's Executive Order</p> <p><i>Potomac Forum Training Workshop</i></p> <p>The President's Executive Order: How to Meet the Workforce Requirements of the President's Executive Order 13781 Training Workshop</p> <p><i>What Federal Executives, Managers, and Supervisors Need to Know to Support the Goals of the Executive Order for Reforming the Federal Government and Reducing the Federal Civilian Workforce</i></p> <p>Date: Thursday, June 28, 2017</p> <p>Sponsored by:</p> <p><u>Potomac Forum, Ltd.</u> <i>the leader in high quality training since</i></p>

**Former Director of Human
Resources (HR)
DOJ and DOC**

**Jim Read
Director, Policy and
Evaluation
Merit Systems Protection
Board**

**Jeffrey Neal
Senior Vice President, ICF
Former CHCO at DLA and
DHS**

**Dr. Fred Soto
Supervisory Manager for
Employee Engagement,
Diversity and Veterans
Outreach
Office of Energy Efficiency
and Renewable Energy
Department of Energy**

**Kimberly Steide
Program Manager for
Human Capital Planning,
HRSTAT, and Metrics
Department of the
Treasury**

**Dianne Hawkins
Program Manager,
Personnel Demonstration
Project
U.S. Army Research
Laboratory**

**Marcus Brownrigg
Strategic Partnership and
Communications Advisorz
Office of the CEO
Corporation for National
and Community Service
(CNCS)**

**Lou Kerestesy
Founder & CEO
GovInnovators**

1984

**www.PotomacForum.org
(703) 683-1613
info@PotomacForum.org**

**Location of Workshop:
Willard InterContinental Hotel
Washington, D.C.**

**Potomac Forum Training Workshops are
100% Educational
and NOT Sales or Marketing Events**

**The Press is Not Permitted to Encourage
Candid Discussion in our 100% Learning
Environment**

Who Should Attend:

- **Federal supervisors and managers**
- **Federal HR practitioners and anyone responsible for implementing agency restructuring plans**
- **Inspector Generals and Staff**
- **Federal employees or members of employee affinity groups**
- **Communications practitioners responsible for leading change management and internal communications campaigns**

Mika Cross
Federal Workplace Expert

Overview:

The president issued an executive order (EO) on March 13, 2017 which requires agencies to plan and implement long-term workforce reductions and incorporate the plan as a government-wide workforce priority into their Agency Strategic Plan and/or Human Capital Operating Plan.

This Potomac Forum training workshop for government will provide information for agency executives, managers, and staff to respond to the EO.

Experienced human capital executives and experts will share their insight and experience in developing and implementing long-term and near-term workforce management practices that will help attendees understand how best to improve performance, increase accountability, and reduce costs.

This workshop will provide you with practical, easy-to-implement tools and resources to help you achieve the best results through your agency's efforts to restructure, reshape and eliminate inefficient functions to achieve the goals of EO 13781 while enhancing employee performance to increase mission efficacy and increase retention.

What You Will Learn:

- **A framework to plan for reorganization and functional consolidation**
- **Avoiding common pitfalls to managing performance and conduct in the modern workplace**
- **Where to find practical support mechanisms, resources and help for managers and supervisors**
- **How to prepare the workforce for activities in cost cutting, reshaping, reducing, and reorganization**
- **Managing change through effective internal and external communications**
- **Driving positive outcomes by leveraging the Federal Employee Viewpoint Survey Results into actionable steps that help cultivate an inclusive culture designed to retain top talent and optimize employee potential**

Why You Should Attend:

- **Learn proven management strategies to demonstrate return on investment, cost savings, and enhanced management efficiencies from developing an effective long-term workforce reduction plan**
- **Understand how to leverage alternative service delivery models and streamline mission support functions to provide greater efficiency while improving quality**
- **Maximize employee performance by focusing on concrete steps to increase performance and effectively deal with poor performers**
- **Optimize employee recognition programs designed to recognize, reward and retain top performers**
- **Build your toolkit for cultivating a culture of engagement and accountability designed to achieve enhanced organizational and individual performance**

Format:

Lecture, guest speakers, and practical exercises.

CEUs Awarded Upon Workshop Completion

Press is NOT Invited to Register or Attend

"Send-A-Team" Registration Fees

No Press to Promote Candid Discussion

Registration and Information:

www.potomacforum.org

Call: (703) 683-1613

Info@PotomacForum.org

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This email was sent to: gunasekara.amanda@epa.gov

Go [here](#) to leave this mailing list or [modify](#) your email profile.
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Potomac Forum, Ltd.

This email was sent by: **Potomac Forum, Ltd.**
400 North Washington Street , Alexandria , Virginia, 22314 , USA

Message

From: Executive Director [ExecutiveDirector@nationalenergyresources.com]
Sent: 6/1/2017 7:23:04 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Tuesday, June 6 NERO Annual Awards Dinner - Reply Requested

Importance: High

Mandy ---

Are you able to join us for the **Tuesday, June 6 NERO Annual Awards Dinner** at the Capitol Hill Hyatt Regency? (*invitation below*)

As this is a seated dinner, I am checking on people who have been requested by NERO members to sit at their table.

Please do not hesitate to give me a call if you have any questions.

All the best,

Carole

Carole Goeas, Executive Director
National Energy Resources Organization (NERO)
Office: 703-548-1764 Cell: 202-256-3516
ExecutiveDirector@NationalEnergyResources.com
www.nationalenergyresources.com



If you are receiving this message, we do not have you down to attend the **Tuesday, June 6th NERO Annual Awards Dinner**, but surely hope you can come!
Please let us know **TODAY** if you will be attending.



NERO ANNUAL AWARDS DINNER

2017 NERO EXECUTIVE COMMITTEE

Jay Ditts, Chairman
Utility Technology Council
Laura Marshall Schlegel, President

Bree Roun, Senior Vice President
American Gas Association
Marnie Funk, V.P. Awards
Shell Oil Company
Kerry Coulton, V.P. Membership
American Petroleum Institute
Jeanne Mitchell, Treasurer
ExxonMobil
Kelly Chapman, Secretary
Dominion

Randall Davis, Counsel
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Christopher Guith, Chairman Emeritus
US Chamber of Commerce/
Institute for 21st Century Energy
Carole Goveas, Executive Director
Carole Goveas & Associates, LLC

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Majida Turner, Tallman Investments
Lisa Van Vorst, Nuclear Energy Institute
Andrew Wheeler, FugroED
Brendon Williams, PSF Energy
Marnie Wynn, NRECA

National Energy Resources Organization

is pleased to present the

2017 Distinguished Service Award

to

U.S. Senator John Barrasso
Chairman, Senate Republican Policy Committee

Tuesday, June 6, 2017

Pre-Dinner Cocktail Reception

5:30-6:45 p.m.

Dinner & Awards Program 7 p.m.

Hyatt Regency on Capitol Hill

400 New Jersey Avenue, NW

Washington, DC

Telephone: 703-548-1764

Email: ExecutiveDirector@NationalEnergyResources.com

#NERO2017

Invitations are not transferable.

Please Note: Counsel has advised that under House and Senate rules this is a "wholly-attended event." Under these rules, only NERO may extend invitations to House and Senate Members or staff to attend this event. Individual members of NERO are not permitted to extend invitations. Violations of these rules may result in criminal liability.



May 10, 2017

BY ELECTRONIC SUBMISSION

Re: Request for Comment on Evaluation of Existing Regulations Docket ID No. EPA-HQ-OA-2017-0190

Dear Sir or Madam:

The Paper Recycling Coalition, Inc. (PRC) is pleased to submit comments on EPA's request for comments on regulations that may be appropriate for repeal, replacement or modification. Since the Solid Waste Disposal Act was originally enacted, there have been dramatic changes in the market place for recyclable paper. EPA has always been a champion of recycling but has been hampered by these outdated provisions. As described below, the PRC urges EPA to consider modifying provisions in regulations issued, under the Solid Waste Disposal Act dealing with the definition of municipal solid waste, to clarify that recyclable paper is not a waste but a valuable commodity.

Recycling is an essential part of a healthy American economy contributing more than 500,000 jobs and generating more than \$100 billion to the U.S. economy according to the Institute of Scrap Recycling Industries¹. Paper recycling is a key contributor and the PRC alone represents manufacturers of 100% recycled paperboard and containerboard who employ over 50,000 people directly at approximately 500 facilities in almost 300 different cities spread throughout 43 states.

Critical to the success of our industry is access to a clean, economically viable fiber supply of recyclable paper for domestic producers. That is why we support community and business efforts to separate their recyclables, such as corrugated boxes and high quality office paper from trash so that they can be recycled into new consumer products that we use every day, rather than sent to a landfill or incinerator.

The Solid Waste Disposal Act, and EPA's regulations implementing that Act, however, considers paper that we all put into our recycling bins to be waste rather than a valuable commodity. This paper is bought by mills and is made into new cereal and pizza boxes and other consumer products such as retail shipping containers. Unfortunately, EPA has interpreted its authority very broadly to define certain recyclable materials that are not thrown away, but instead recycled as waste, subject to regulation. By extension, some states have adopted this broad interpretation and have classified paper as municipal solid waste, a subset of solid waste.

This interpretation, coupled with several provisions in existing federal law (e.g. in the Energy Policy Act of 2005 and the Tax Code)², put paper recyclers at a competitive disadvantage by providing incentives to burn municipal solid waste for energy recovery thus making it difficult and more costly for paper recyclers to compete for the recyclable paper feedstock.

¹ See <http://www.isri.org/policy-regulations/economy>

² See Sections 203 (federal purchase requirement), 1703 (loan guarantees for renewable energy) and section 45 of the tax Code (production tax credit)

Recently, EPA recognized the problem this creates for legitimate recycling of commodities such as paper. In EPA's "Beyond RCRA" Report³ the Agency states:

"Creating a system truly oriented towards efficient use of resources could also require fundamental changes in the waste versus non-waste regulatory construct embedded in the current RCRA system so that materials now considered wastes would be seen, whenever possible, as commodities with potential uses. One approach to making such a system work would be to identify materials as 'wastes' only when they are clearly destined for disposal. Reducing distinctions between wastes and materials could dramatically improve recycling and reuse rates and therefore, make great contributions towards conservation of resources. A materials management system rather than a 'wait until it has been designated as waste' management system implies a revamping of RCRA Subtitles C and D".

The change that we are suggesting would simply clarify the federal definitions used in EPA's RCRA regulations so that paper would not be defined as solid waste or municipal solid waste but as an inherently valuable feedstock used for manufacturing new products. We urge the Agency to consider amending the following regulations to ensure that commonly recycled paper is not defined as solid waste but as a recyclable commodity that is used in place of a primary, raw or virgin material in manufacturing a product.

Specifically, the PRC recommends that EPA modify the following provisions in 40 CFR:

1. We urge EPA to amend the definition of "municipal solid waste" and "solid wastes" used in 40 CFR Part 240.101(q) and (y) as follows to clarify that municipal solid waste does not include paper that is commonly recycled.

(q) *Municipal solid wastes* means normally, residential and commercial solid wastes generated within a community, but does not include paper that is commonly recycled.

(y) *Solid wastes* mean garbage, refuse, sludges, and other discarded solid materials resulting from industrial and commercial operations and from community activities. It does not include solids or dissolved materials in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial wastewater effluents, dissolved materials in irrigation return flows or other common water pollutants, or paper that is commonly recycled.

2. We urge EPA to amend the definition of "solid waste" used in 40 CFR Part 243.101(y) as follows to exclude paper that is commonly recycled.

(y) *Solid waste* means garbage, refuse, sludges, and other discarded solid materials, including solid waste materials resulting from industrial, commercial, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial wastewater effluent, dissolved materials in irrigation return flows or other water pollutants, or paper that is commonly recycled. Unless specifically noted otherwise, the term 'solid waste' as used in these guidelines shall not include mining, agricultural, and industrial solid wastes; hazardous wastes; sludges; construction and demolition waste; ~~and~~ infectious wastes, and paper that is commonly recycled.

³ See Beyond RCRA Waste and Materials Management in the Year 2020

3. We urge EPA to amend the definition of "municipal solid waste" used in 40 CFR Part 246.101(bb) as follows to exclude paper that is commonly recycled.

(bb) *Solid wastes* means garbage, refuse, sludges, and other discarded solid materials, including solid waste materials resulting from industrial, commercial, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage or other significant pollutants in water resources, such as silt, dissolved or suspended solids in industrial wastewater effluent, dissolved materials in irrigation return flows or other water pollutants, or paper that is commonly recycled. Unless specifically noted otherwise, the term 'solid waste' as used in these guidelines shall not include mining, agricultural, and industrial solid wastes; hazardous wastes; sludges; construction and demolition waste; ~~and~~ infectious wastes, and paper that is commonly recycled.

We believe that these changes would go a long way toward putting paper recyclers on a more equal footing with those who are eligible for incentives in other statutes to burn municipal solid waste which includes paper, for energy recovery. To be clear, these changes would not give paper recyclers an advantage, rather it would allow paper recyclers all across the country to fairly compete for clean paper fiber feedstock that is critical to the survival of our industry. For these reasons we respectfully ask that EPA consider the changes we have proposed.

Thank you for the opportunity to provide these comments. Please do not hesitate to contact us with any questions you may have.

Sincerely,



Brian McPheely
Chairman, Paper Recycling Coalition
Global CEO, Pratt Industries



Mike Doss
Vice Chairman, Paper Recycling Coalition
President and CEO
Graphic Packaging International



Terese Colling
President, Paper Recycling Coalition

Message

From: Minoli, Kevin [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C9C0070D651A4625AC20258369F9B050-KMINOLI]
Sent: 6/14/2017 3:27:42 PM
To: Wood, Jeffrey (ENRD) [Jeffrey.Wood@usdoj.gov]
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Fotouhi, David [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=febaf0d56aab43f8a9174b18218c1182-Fotouhi, Da]
Subject: Re: We are here downstairs...

Someone is on their way to escort you upstairs.

Kevin S. Minoli
Acting General Counsel
Office of General Counsel
US Environmental Protection Agency
Main Office Line: 202-564-8040

> On Jun 14, 2017, at 11:27 AM, Wood, Jeffrey (ENRD) <Jeffrey.Wood@usdoj.gov> wrote:
>
>



Agenda for ECOS-EPA Leadership Meeting
July 18, 2017
8:30 am – 12 pm, Rachel Carson Green Room,
EPA North

Please Arrive by 8:00 am to Facilitate Security Process
Light Continental Breakfast & Coffee Available From ECOS On Site



E C O S

8:30 – 9:00 **Introductions and Welcoming Remarks.** Discussion of meeting purpose: to focus on how EPA and ECOS can work together to improve environmental results, Administrator Pruitt's priorities and goals.

- *E. Scott Pruitt*, Administrator, U.S. Environmental Protection Agency
- *John Linc Stine*, Commissioner, Minnesota Pollution Control Agency & ECOS President

9:00 – 10:00 **Cooperative Federalism.** A national conversation is underway as to the best and highest purpose for state and federal environmental regulators from 2017 forward. Robust discussion around how a recalibration of state and federal roles and resources can lead to more effective environmental management at lower cost is front and center. ECOS has answered the call for a novel approach to cooperative federalism through development of a policy paper, campaign, and full day meeting on Reframing Our Environmental Future. This portion of the agenda will continue this important dialogue.

Discussion Leaders:

- *EPA?*
- *Todd Parfitt*, Director, Wyoming Department of Environmental Quality & ECOS Vice President
- *Martha Rudolph*, Director, Environmental Programs, Colorado Department of Public Health and the Environment & ECOS Past President

10:00 – 10:30 Networking Break

10:30 – 11:00 **ECOS Environmental Results Project.** At ECOS' Fall Meeting (September 11-12, 2017), ECOS will release its *State Results* project to accomplish several goals – among them, telling the state environmental progress story, showing that ambient environment is progressing and that improvement is possible, and better informing stakeholders about their environment. Discussion will provide a preview of the *State Results* project to date, and opportunities to collaborate with EPA on the effort.

Discussion Leaders:

- *Pat Stevens*, Administrator, Division of Environmental Management, Wisconsin Department of Natural Resources & Chair, ECOS Planning Committee
- *Bill Ehm*, Division Administrator, Iowa Department of Natural Resources & Vice Chair, ECOS Planning Committee

11:00 – 11:40 **Priority Executive Orders and Rulemakings.** The Administration has several important rulemakings and responses to Executive Orders underway. State input is valuable to these

[PAGE * MERGEFORMAT]

endeavors. This discussion will provide an opportunity to discuss issues of national import and significance as well as a forum for state engagement.

Discussion Leaders:

- *EPA?*
- *Becky Keogh*, Director, Arkansas Department of Environmental Quality & ECOS Secretary-Treasurer

11:40 – 12:00 **Next Steps & Adjourn**

Discussion Leaders:

- *John Linc Stine*
- *EPA?*

United States Senate

WASHINGTON, DC 20510

May 25, 2017

The Honorable Donald J. Trump
President of the United States
The White House
1600 Pennsylvania Avenue
Washington, DC 20500

Dear President Trump:

We have been encouraged by the steps you have taken to reduce the regulatory burdens facing this country. From your many Executive Orders to the signing of 14 laws rolling back regulations from the previous Administration, it is clear you share our commitment to reducing the regulatory burden our businesses face in order to create jobs and grow the economy.

One of the most important executive orders you signed is EO 13783, *Promoting Energy Independence and Economic Growth*, wherein, among other things, you instruct the Environmental Protection Agency (EPA) to unwind President Obama's Clean Power Plan regulations.

We applaud this objective and encourage you to take every action necessary to ensure it is accomplished.

A key risk to fulfilling this objective is remaining in the Paris Agreement. Because of existing provisions within the Clean Air Act and others embedded in the Paris Agreement, remaining in it would subject the United States to significant litigation risk that could upend your Administration's ability to fulfill its goal of rescinding the Clean Power Plan. Accordingly, we strongly encourage you to make a clean break from the Paris Agreement.

Section 115 of the Clean Air Act addresses the regulatory steps the United States must take to address International Air Pollution. EPA and state government regulatory action of a pollutant are mandated after two tests are met: (1) a finding is established that a pollutant from the U.S. is endangering the public health or welfare of another country; and (2) it is determined that the endangered country gives the U.S. the same rights to prevent or control pollution from that country.

Under the previous Administration, EPA issued an endangerment finding for greenhouse gases and then pursued the Clean Power Plan. Many environmentalists already believe that this finding is broad enough to meet the endangerment test under Section 115, and they would certainly make this argument in court as they fight your efforts to rescind the Clean Power Plan rulemaking.

Environmentalists will argue that these Section 115 requirements are, in fact, met more easily by the Paris Agreement because it includes enhanced transparency requirements in Article 13, which establishes a process for nations to submit plans to reduce emissions to one another and then to comment on the plans of one another.

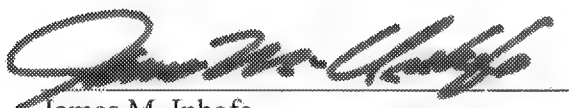
Leading environmental attorneys have been candid that they intend to use the Paris Agreement and the existing endangerment finding to force EPA to regulate under Section 115 of the Clean Air Act.

David Bookbinder, formerly Chief Counsel of the Sierra Club, stated that together the Paris Agreement and Section 115 are the "silver bullet de jour of the enviros." And their intent to use it is real. New York and Vermont Attorneys General recently wrote to their colleagues that "states must still play a critical role in ensuring that the promises made in Paris become a reality." With statements like this, it is clear that those advocating for greenhouse gas regulations will use the Paris Agreement as a legal defense against your actions to rescind the Clean Power Plan if you decide to remain in the Paris Agreement. This is why it is so important for you to make a clean exit from the Agreement.

We understand that some officials inside your Administration want to remain in the Paris Agreement to keep a seat at the table so that the U.S. continues to have a voice in future discussions. Fortunately, a clean exit from the Paris Agreement will not take this away. The Senate gave its consent to the United Nations Framework Convention on Climate Change (UNFCCC) in 1992; this treaty provides a permanent seat at the table for the United States to engage with other countries each year at the Conferences of Parties (COP). In fact, it was through an annual COP meeting in Paris that the Paris Agreement was signed. This permanent seat at the table enabled President Obama to negotiate this deal; this seat remains and will enable you to continue discussions with other nations on this topic should you choose to do so.

Again, we applaud you for your ongoing efforts to reduce overregulation in America. To continue on this path, we urge you to make a clean exit from the Paris Agreement so that your Administration can follow through on its commitment to rescind the Clean Power Plan.

Sincerely,



James M. Inhofe
United States Senator



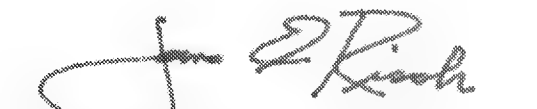
Mitch McConnell
United States Senator



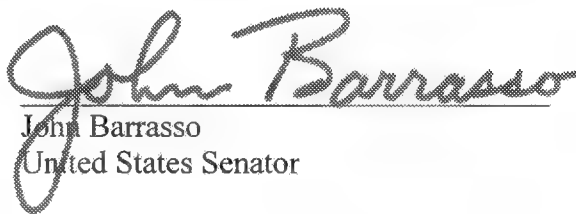
Roy Blunt
United States Senator



Michael B. Enzi
United States Senator



Jim Risch
United States Senator



John Barrasso
United States Senator



John Cornyn
United States Senator



Roger Wicker
United States Senator



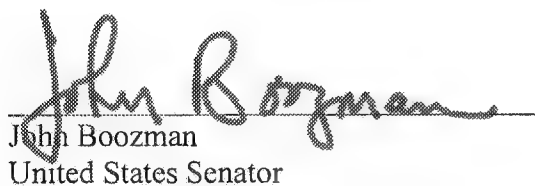
Michael D. Crapo
United States Senator



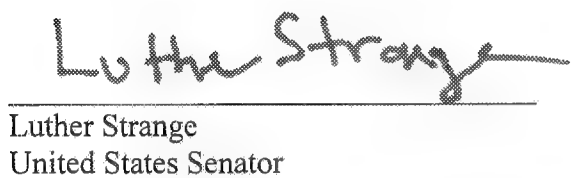
Thad Cochran
United States Senator



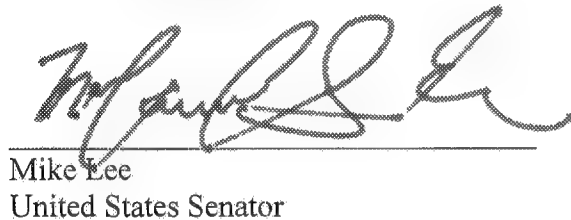
M. Michael Rounds
United States Senator



John Boozman
United States Senator



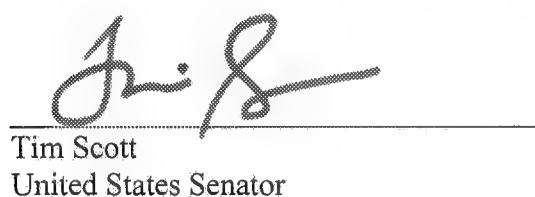
Luther Strange
United States Senator



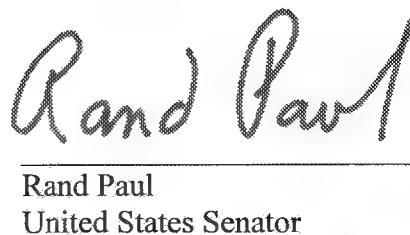
Mike Lee
United States Senator



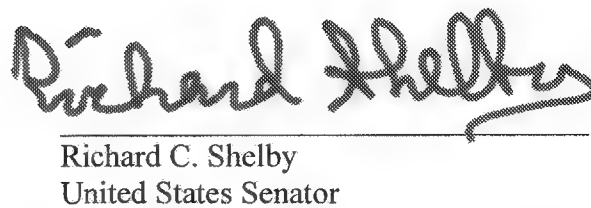
David Perdue
United States Senator



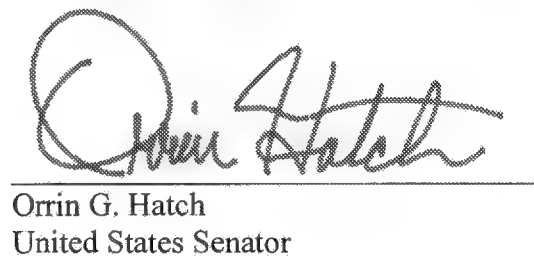
Tim Scott
United States Senator



Rand Paul
United States Senator



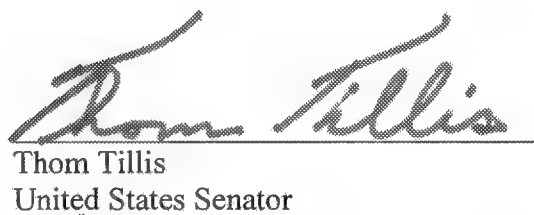
Richard C. Shelby
United States Senator



Orrin G. Hatch
United States Senator



Ted Cruz
United States Senator



Thom Tillis
United States Senator



Pat Roberts
United States Senator

Message

From: KUNZ David [david.kunz@arkema.com]
Sent: 5/18/2017 2:21:08 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: KARPMAN Allen [allen.karpman@arkema.com]
Subject: FW: Arkema - short meeting?

RESTRICTED

PRIVILEGED AND CONFIDENTIAL
 ATTORNEY-CLIENT COMMUNICATION
 ATTORNEY WORK PRODUCT

Mandy,

Hi. I just wanted to touch base and follow-up with you on an earlier e-mail to see if you might be available next week for a short meeting with myself and my colleague, Allen Karpman, to briefly discuss the EPA SNAP rules and TSCA.

Would you have any availability for either of the dates/times below?

- Tuesday, May 23 – 2 pm or later
- Wednesday, May 24 – all day

Many thanks for your consideration and hope that we might be able to visit with you briefly next week if your schedule allows.

David

David E. Kunz
 Arkema Inc.
 Office: (202) 263-3491
 Cell: (202) 257-1115
 david.kunz@arkema.com
 www.arkema.com



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From: KUNZ David
Sent: Friday, May 05, 2017 1:26 PM
To: 'gunasekara.mandy@epa.gov' <gunasekara.mandy@epa.gov>
Cc: KARPMAN Allen <allen.karpman@arkema.com>
Subject: Arkema - short meeting?

Mandy,

Hello and congratulations on your new position at EPA -- hope all is going well.

We previously met with you when you were at the Senate Environment and Public Works Committee, and I wanted to see if you might have some time, again, to meet with us in your new capacity. My colleague, Allen Karpman, will be in DC

later this month and we would be greatly appreciative for an opportunity to have a short meeting with you. Our main topics of interest are the EPA SNAP regulations and general TSCA implementation.

I will throw out the following possible dates for consideration and to see if any of these might work for you (Allen Karpman will be in DC on these dates):

- Monday, May 22 – 3:30 pm or later
- Tuesday, May 23 – 1 pm or later
- Wednesday, May 24 – all day
- Thursday, June 1 - morning

Hope one of the above dates/times might work for you for a short meeting (and, if none of the above work, please let me know and we can look at some other dates).

Many thanks for your consideration – hope you have a good weekend.

David

David E. Kunz

Arkema Inc.

Office: (202) 263-3491

Cell: (202) 257-1115

david.kunz@arkema.com

www.arkema.com



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Message

From: Horton, Melissa H. [MHIGGINS@southernco.com]
Sent: 6/15/2017 12:56:54 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Black, Noel W. [NWBLACK@southernco.com]; Jackson, Ryan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=38bc8e18791a47d88a279db2fec8bd60-Jackson, Ry]
Subject: Re: Call

2:45 pm today would be perfect. We can use conference call # Personal Phone / Ex. 6. Thank you again!!!

Melissa Horton
 Southern Company
 Federal Environmental Affairs
 Washington, D.C.

Personal Phone / Ex. 6

On Jun 15, 2017, at 8:35 AM, Gunasekara, Mandy
 <Gunasekara.Mandy@epa.gov<mailto:Gunasekara.Mandy@epa.gov>> wrote:

2:45 would work - is that late enough? Also, 5 pm.

-----Original Message-----

From: Horton, Melissa H. [mailto:MHIGGINS@southernco.com]
 Sent: Thursday, June 15, 2017 8:33 AM
 To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov<mailto:Gunasekara.Mandy@epa.gov>>
 Subject: Re: Call

Thanks for the quick response. We had planned to walk over for the budget hearing during that time. Would anything later (or earlier) work for you? If not, we can make the earlier time work. Thank you and I'm looking forward to meeting you!

Melissa Horton
 Southern Company
 Federal Environmental Affairs
 Washington, D.C.

Personal Phone / Ex. 6

On Jun 15, 2017, at 8:11 AM, Gunasekara, Mandy
 <Gunasekara.Mandy@epa.gov<mailto:Gunasekara.Mandy@epa.gov><mailto:Gunasekara.Mandy@epa.gov>> wrote:

Good Morning,
 I'm free from 1 or 1:30 this afternoon. Either of those times work for you?

-----Original Message-----

From: Horton, Melissa H. [mailto:MHIGGINS@southernco.com]
 Sent: Thursday, June 15, 2017 7:49 AM
 To: Gunasekara, Mandy
 <Gunasekara.Mandy@epa.gov<mailto:Gunasekara.Mandy@epa.gov><mailto:Gunasekara.Mandy@epa.gov>>
 Cc: Jackson, Ryan <jackson.ryan@epa.gov<mailto:jackson.ryan@epa.gov><mailto:jackson.ryan@epa.gov>>;
 Black, Noel W. <NWBLACK@southernco.com<mailto:NWBLACK@southernco.com><mailto:NWBLACK@southernco.com>>
 Subject: Call

Hi Mandy. If you're available, Noel and I would like to follow up with you today or tomorrow regarding the utility dialogue on Monday, June 19. Let us know if we can set up a call and what time might be best time. Thanks you.

Melissa Horton
 Southern Company
 Federal Environmental Affairs
 Washington, D.C.

Personal Phone / Ex. 6

Message

From: White, Erika [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9B601EF355FC4554A1EF5212DFA52744-BOLDEN, ERIKA]
Sent: 5/31/2017 4:24:04 PM
To: Rebecca Combs-Dulaney [rcombsdulaney@gmail.com]; Barrino, Reginald [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=376274ec85a24ff1a1f5a4f002ffdc57-Barrino, Reginald]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Andrew Covington [acovington@allenes.com]; mike evans [mike-evans@sssvc-inc.com]; Cole Cardwell [cole-cardwell@sssvc-inc.com]
Subject: RE: SSS Enforcement Issue
Attachments: SEP example.doc; SEP example2.pdf; SEP example.doc.pdf

Ms. Dulaney,

Thank you for speaking with me this morning. I believe I have answered all of your concerns. Please see the extension notice below. Also attached are examples of previously approved SEP's.

EPA is in receipt of your requested extension to submit a Supplemental Environmental Project proposal in response to the Notice of Potential Violations and Opportunity to show cause letter received by your facility. The requested response date was May 31, 2017.

The Environmental Protection Agency (EPA) Region 4 is in receipt of your extension request received on May 31, 2017, in which you request an extension to submit a Supplemental Environmental Project (SEP) proposal in response to EPA's Notice of Violation and Opportunity to Show Cause letter. EPA requested a submission of the SEP proposal by Structural Steel by May 31, 2017.

EPA is granting at this time an extension. Please submit the proposal no later than **Friday June 9, 2017**.

Please let me know if I can be of any further assistance.

Perseverance makes the difference between failure and success...#pressyourwaythrough

Erika White
 Environmental Engineer
 US EPA Region 4
 Atlanta, GA
 404-562-9195

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From: Rebecca Combs-Dulaney [mailto:rcombsdulaney@gmail.com]
Sent: Wednesday, May 31, 2017 11:05 AM
To: White, Erika <White.Erika@epa.gov>; Barrino, Reginald <Barrino.Reginald@epa.gov>; Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Cc: Andrew Covington <acovington@allenes.com>; mike evans <mike-evans@sssvc-inc.com>; Cole Cardwell <cole-cardwell@sssvc-inc.com>; Rebecca Combs-Dulaney <rcombsdulaney@gmail.com>
Subject: SSS Enforcement Issue

Good morning Erika,

Andrew Covington has advised me that you have requested verification of Andrew's authority to represent Structural Steel Services on matters pertaining to our EPA Enforcement Issue. Andrew Covington is the VP and Principal Engineer with Allen Engineering and Science whom we retained many years ago to serve as our expert on all environmental policies pertaining to SSS and he is authorized by us to represent us in this matter.

I am confused by this late request as Andrew has been the point person along with Mike Evans, our Safety Director, on all emails and in all conversations since the inception of this issue more than one year ago.

Today is the last day indicated for us to submit our SEP which as you know is the option we selected. We verbally asked for an extension but have not heard anything back regarding this extension. Nor have we been given any guidance on submitting an acceptable SEP.

Please let us know how we should proceed as this is causing a great deal of disruption in our day to day operations, and our costs are now mounting considerably with the engineering firm, not withstanding our costs as this pulls key personnel away from our time sensitive deliveries of fabricated materials.

We ask that you confirm receipt of this email and provide instructions with how to proceed.

Rebecca Combs-Dulaney
Vice President
Structural Steel Services, Inc.
PO BOX 2929
6210 St. Louis St.
Meridian, MS 39302
601-616-4428 (cell)
601-483-5475 (fax)
rcombsdulaney@gmail.com

Respondent shall undertake and complete, as a Supplemental Environmental Project (SEP), the following emergency planning and preparedness project within 60 days of the effective date of this CAFO:

Expend a total of NINE THOUSAND NINE HUNDRED AND TWO DOLLARS (\$9,902) for the purchase and donation of the following equipment to the Washington County Emergency Management Agency, Chatom, Alabama:

1	HP LaserJet 2430TN Black and White Printer	\$945.00
2	HP SupportPack	\$457.00
4	Latitude D610 Intel Pentium M Processor 750	\$5,995.00
1	Dell 3400 MP Projector	\$1,499.00
1	Canon EOS Digital Camera Kit	\$899.99
1	HP PSC 1610 All-in-One Color Printer	\$129.99

SEP EXAMPLES

COMPANY	SEP TYPE	Violation	DENOTED TO	Amount	PROJECT
Florida Coca-Cola Bottling Company, Tampa, FL	Pollution Reduction	103(a) 304(a)	Installation of equipment at facility.	\$17,641	-Upgrade Primary Pressure Transducers -Install two secondary Pressure Transducers on Surge Tanks -Install Analog Cards to the PLCs in the Filler Room -Conduct Pipe Integrity Testing on all Ammonia System Lines -Upgrade Pressure Gauges and Mounts on Air Compressors
	Emergency Planning and Preparedness		Hillsborough County Fire Department	\$5,341	-2 Orion Plus IR Detectors -1 Calibration Kit
Trane, division of American Standard, Clarksville, TN	Emergency Planning and Preparedness	103(a)	Clarksville Fire Department, Clarksville, TN	\$2,735	-Portable Decontamination Shower Spray Hoop -Storage Bag for Portable Decontamination Spray Device -High Pressure Shower Multi-manifold -Drum & Tank Repair Kit Package -12 Hazardous Proof Boots
	Pollution Prevention Project			\$9,600	-Removal of 9 mercury ignition controls -Removal of 22 mercury thermostats and replace with non-mercury controls
Foam Design, Inc	Pollution reduction				-Design and implementation of a process to recycle polyethylene scrap currently disposed of in landfill areas (not required by law)
APAC Georgia, Inc., Augusta, GA	Emergency Preparedness and Planning	311 312	Hardeeville Volunteer Fire Department	\$19,900	-Purchase of truck
Citrus Hill	Emergency Preparedness		Polk County Emergency Management	\$2,500	-Chlorine repair kit to county EMA
Consolidated Minerals, Inc.	Emergency Preparedness			\$5,000	-\$2,500 to FL Emergency Response Commission towards Title III enhancement \$2,500 to local fire dept for computer to be used for data management

Technical Coatings	Emergency Preparedness	312	Forsyth County FD	\$2,114	-NDP-25 Pump -IDx20ft Black Tank Truck suction hose w/AL1 fittings -ID/50ft. Black Tank Discharge hose w/AL1 fittings -ID/20ft Green Crosslink Poly-pro suction hose & fittings -ID/20ft Green Crosslink Poly-pro Disch hose w/fittings -Thermal Imaging Camera -Drager Rapid Adaptors -Drager NIOSH Cartridges -Non-Sparking Tool Kit -Lab Safety Utility Tool Kit -Lab Safety pH Wide Sticks -Safety CHRIS Manual -Safety NFPA Guide to Haz-Mat -Condensed Chemical Directory
Aiken Chemical Company	Emergency Preparedness	312 313	Aiken County Emergency Services	\$9,478	
	Pollution Prevention			\$20,950	
Palmetto Paving Corporation	Emergency Preparedness	312	Spartanburg Emergency Preparedness Department	\$15,725	Purchase and donate equipment
Apex Chemical Corp	Emergency Preparedness		Spartanburg Emergency Preparedness Department	\$3,000	Purchase and donate equipment
Budget Rent a Car of Greenville/Spartanburg	Emergency Preparedness	311 312	Greenville County Emergency preparedness	\$10,199	Donation of equipment
City Ice Company	Emergency Preparedness	312	Hall County Fire Department	\$7,184	-Level A Hazmat Suits -Level B Hazmat Suits
Harris Calorific, Inc.	Pollution Prevention	312 313		\$59,700	-Installation of chip washer, including pans and dollies
	Pollution Reduction Pollution Reduction			\$21,600 \$6,858	-Installation of 6 oil demisters to reduce 99% of oil mist -Scrap metal containment area
Barnhardt Man. Co., Inc	Pollution Prevention				-Testing & Incorporating a substitution of solvent based adhesives using water based types eliminating the use of 1,1,1 trichloroethane (not required by law)

Eastley Custom Plastics Eastley, SC	Emergency Planning and Preparedness	312	Pickens County Emergency Management	\$14,735	<ul style="list-style-type: none"> -Tychem TK fully encapsulated Level A Suit -Lighthawk rechargeable lantern, -6-cell 2.22 lbs 1 Modular Davit arm and Mast with portable base. -Salalift II winch w/60' galvanize cable, mounting bracket and winch bag -Sealed self retracting lifeline 50' with emergency retrieval with mounting bracket and carrying case -Y -Lanyard, 1 3/4" web w/self locking snap hooks and each end w/spearer bar -Bg Oclansorb 44 liter bag -Extrication/rescue glove, Kevlar liner, nomex flame resistant, Kevlar stitched, cuff extension, x-large -Ultra-spillbern, black, 10' x 4" x 2 1/4" x 2 1/4" 31 lbs, non-absorbing Polyurethane -Ventilation blower, AC Axial Flower Kit, 6' x15'
Koppers, Inc., Grenada, MS	Emergency Planning and Preparedness	103	Grenada Mississippi Fire Department	\$14,735	<ul style="list-style-type: none"> Scott Air Packs self-contained breathing apparatus (SCBAs)
Dow Chemical Company, Dalton, GA	Emergency Planning and Preparedness	103 304(a)	Whitfield County Fire Department	\$8,740	<ul style="list-style-type: none"> -Lumidor Minimax X4 Gas Monitor -Winch - DBI Sealed Fall Protection and Rescue Device -SKED Rescue System -Confined Space Entry Kit -2-person Confined Space Rescue Standby Kit. -MSA Prem Air Supply System NFPA, OSHA with nomex belt, STC MMR, 10 minute Carbon Left Cylinder -MSA Evolution 5200 with truck mount charging system, two batteries, retractable lanyard, full two year warrantee and 24 hour replacement -50' High pressure hose with Hansen Brass female and male fittings
Dayco Products, LLC	Emergency Planning and Preparedness	312	Eastley Fire Department	\$16,557	
Solutia, Inc., Decatur, AL	Emergency Planning and Preparedness	103 304(a) 304(a)	Decatur Fire & Rescue Dept., Decatur, AL Morgan County Emergency Management Agency, Decatur, AL	\$15,996 \$5,858	<ul style="list-style-type: none"> -ISG thermal imaging cameras with 7 Hour battery -Aspira Desks with Inlay

In Vista, Camden, SC	Emergency Planning and Preparedness	103	Kershaw County LEPC	\$14,864	<ul style="list-style-type: none"> -MSA4-gas monitoring devices -Mobile Threat Net Weather Display System -Lightsticks (orange, red, white, yellow) -TASCO Binoculars -Bushnell spotting Scope -Busnell Image Digital Camera Binoculars -Emergency Personnel Vests -HazMat Team with Logo Vests -Police Mesh Safety Vests -Fire Mesh Safety Vests -Emergency Mesh Safety Vests -HazMat Mesh Safety Vests -DECON Vests -Incident Commander Vest -Information Office Vest -Medical Vests -Operations Vests -Rehab Vests -Safety Office Vests -Staging Vests -Treatment Vests -Triage Vests
Technical Plating & Rubber, Inc., Watertown, TN	Emergency Planning and Preparedness	312	Watertown Volunteer Fire Department, Watertown, TN	\$9,099	<ul style="list-style-type: none"> -Orange HazMat Boots -15ML Flick Lined Nitril gloves -Full face Respirators -Tychem TK Level A Suit, Rear Ent. -Tape VYL Caution -Tape, Danger, Hazardous Materials -65 gallon Overpack -Benzene 0.1 – 75 PPM Box -Sample Draw Pump Kit -Defend Decontamination Shower -Defend Decontamination pool -Chemical Tape -Dominator Acid Suite w/hood -Hazrae Handheld wireless device -PDA waterproof, crushproof case portals for GPS, printer and cable connection

Message

From: Forman Matthew (FCA) [matthew.forman@fcagroup.com]
Sent: 6/15/2017 11:36:53 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: FCA US Files for Diesel Vehicle Certification

Mandy,
Here's a link to our press release when we formally filed our application last month.
Matt

<http://media.fcanorthamerica.com/newsrelease.do?id=18296&mid=70>

Sent from my Verizon, Samsung Galaxy smartphone

Message

From: Wendy Hutchinson [w.hutchinson@millenniumbulk.com]
Sent: 5/17/2017 12:22:01 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Rogier, Rachel [RRogier@archcoal.com]
Subject: Re: Mandy at EPA

Sounds great. How would 1 pm ET on Thursday 5/25 work?

Sent from my iPhone

On May 16, 2017, at 4:23 PM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Thanks, Rachel.

Wendy, I look forward to connecting. Let me know when you have some time. From my end, later next week would be best.

Thanks,
Mandy

From: Rogier, Rachel [mailto:RRogier@archcoal.com]
Sent: Tuesday, May 16, 2017 5:02 PM
To: 'Wendy Hutchinson - Millennium Bulk Terminals Longview (w.hutchinson@millenniumbulk.com)' <w.hutchinson@millenniumbulk.com>
Cc: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Mandy at EPA

Hi Wendy,

As promised, here's Mandy Gunasekara's contact info.

I tried to explain to Mandy (to the best of my limited ability) the state EIS and she's interested in learning more about the likely permitting issues down the road. I'll leave it up to you two to find a time to connect over the phone.

Cheers,

Rachel Rogier

Arch Coal – Federal Government Affairs Representative
2600 Virginia Ave., NW, Suite 505
Washington, D.C. 20037
Office: 202-333-5265 F:202-204-0447
rrogier@archcoal.com

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Message

From: A: G7emm [G7emm@minambiente.it]
Sent: 6/9/2017 9:17:26 PM
To: Filyk, Greg (EC) [greg.filyk@canada.ca]; "DUMOULIN Virginie (Directrice des affaires européennes et internationales) - SG/DAEI" [virginie.dumoulin@developpement-durable.gouv.fr]; "BARGIARELLI Pascal (Chargé de mission) - SG/DAEI/CCDD3" [pascal.bargiarelli@developpement-durable.gouv.fr]; Sach, Karsten [Karsten.Sach@bmub.bund.de]; Schroeder, Marcus [Marcus.Schroeder@bmub.bund.de]; TAKESHI_SEKIYA@env.go.jp; SATORU_MORISHITA@env.go.jp; KEITARO_TSUJI@env.go.jp; Case, Cheryl (Defra) [cheryl.case@DEFRA.GSI.GOV.UK]; Corrigan, Tanya (DEFRA) [Tanya.Corrigan@defra.gsi.gov.uk]; Finman, Hodayah [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=92efbc05989a49ec874c24bb790a872c-Finman, Hodayah]; Cyril.LOISEL@ec.europa.eu; Luca.Marmo@ec.europa.eu; erin.silsbe@canada.ca; jacob.werksman@ec.europa.eu; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Marguccio Stefano [Marguccio.Stefano@minambiente.it]; La Camera Francesco [Lacamera.Francesco@minambiente.it]; Ravazzi Aldo [Ravazzi.Aldo@minambiente.it]; PierCarlo Sandei [PierCarlo.Sandai@unep.org]; Pasella Daniela [Pasella.Daniela@minambiente.it]; Carlotta Demofonti [C.Demofonti@governo.it]; Luca Bergamaschi [L.Bergamaschi@governo.it]; A: G7emm [G7emm@minambiente.it]; A: G7logistica [G7logistica@minambiente.it]; Brunelli Giovanni [Brunelli.Giovanni@minambiente.it]; Fricano Federica [Fricano.federica@minambiente.it]; Negrin Alessandro [Negrin.Alessandro@minambiente.it]; Dell'Anno Benedetta [DellAnno.benedetta@minambiente.it]; Manzione Pierluigi [Manzione.Pierluigi@minambiente.it]; Castaldi Gionata [Castaldi.Gionata@minambiente.it]; Eboli Fabio [Eboli.Fabio@minambiente.it]; Molocchi Andrea [Molocchi.Andrea@minambiente.it]; Medaglia Carlo Maria [Medaglia.CarloMaria@minambiente.it]
Subject: additional documents from the WG Communiqué
Attachments: Action Plan.pdf; Final Proposal for climate.docx

Dear Colleagues,

as announced, please find below the text proposed by the Prime Ministers office as a follow up to the Taormina Summit communiqué.

"We acknowledge Leaders' attention in Taormina on the importance of equipping our Countries with NPR-Enabling quality infrastructure, as stated by Leaders' People Centered Action Plan Key Policy Priority 7.

In particular, we recognize the importance to equip our Countries, starting from our Cities, with a set of new or upgraded quality infrastructures that could definitely improve the productivity of the business, the mobility of people and goods and the access of people, business and researchers to NPR-related innovation.

Hence, we welcome the opportunity to setup a collaboration among competent Ministers, so as to foster the dialogue on how to design policies aimed at deploying and interconnecting NPR-enabling quality infrastructures, such as high-speed broadband networks; green, resilient, smart grids; smart logistic and mobility platforms."

For your ease of reference, we are also attaching a supporting relevant document agreed in Taormina.

Moreover I am attaching the text of the US footnote as well as the proposed text of the text from the other countries on climate change.

"The United States of America is not in a position to join consensus on those portions of the Communiqué on climate and finance, reflecting its recent announcement to immediately cease implementation of the Paris Agreement and associated financial commitments. The US is creating a domestic process to assess climate priorities and is engaging key international partners on reentering the Paris Agreement or negotiating a new Agreement in a manner that is consistent with domestic priorities, ensuring both a strong economy and a healthy environment."

Please forward this email to any colleague we might have involuntarily missed.

G7 Team Presidency



G7 PEOPLE-CENTERED ACTION PLAN ON INNOVATION, SKILLS AND LABOR

PREAMBLE

Innovation and, more specifically, the Next Production Revolution (NPR), are going to bring unprecedented “Big Shifts” to our companies, our labor forces and our societies, as highlighted by the OECD report “The Next Production Revolution: Implication for Government and Business”.

In addition to the initiatives that our countries have already undertaken at the national level, we, the Leaders of the G7, recognize the extraordinary opportunity we have today to express a common agreement on a set of main priorities regarding Innovation, Skills and Labor. The relevant specific policies will be elaborated further during our competent Ministers’ Meetings.

In conjunction with our Summit Leaders’ Communiqué, our goal, today, is to highlight an integrated policy agenda, so as to allow people and firms from all sectors to take full advantage of the benefits of innovation and, in doing so, to magnify our efforts to make innovation a concrete source of prosperity, competitiveness and well-being for all regions of our countries.



MAIN POLICY PILLARS AND KEY POLICY PRIORITIES

To seize the opportunities and to tackle the challenges of the “Big Shifts” sparked by innovation and the NPR, we have therefore identified three main Policy Pillars, along with a set of Key Policy Priorities, whose specific aspects will be further analyzed during the discussions among our competent Ministries.

PILLAR I – INNOVATION IN PRODUCTION

In this area, we identify **three key policy priorities: (1) inclusiveness; (2) openness; and (3) security.**

Key Policy Priority 1. Foster inclusion of SME in the innovation-driven economy, recognizing their important role in the digital transformation of G7 countries, while paying special attention to start-ups.

Key Policy Priority 2. Promote access to the digital world for people and businesses, and advance towards the development and use of Artificial Intelligence, as essential drivers of inclusive economic growth and progress. Promote and protect the free flow of information, while ensuring privacy and data protection and strengthening digital security.

Key Policy Priority 3. Promote and support both Intellectual Property Rights Protection and risk-informed policies on Cybersecurity that strengthen the digital economy and play a key role in businesses’ growth and people’s well-being.

PILLAR II – KNOWLEDGE-BASED CAPITAL AND ENABLING INFRASTRUCTURE

In this area, we identify **three key policy priorities: (1) human capital formation; (2) science, technology and innovation (STI) financing policies and mechanisms; and (3) global research infrastructures.**

Key Policy Priority 4. Increase researchers’ abilities to address opportunities and challenges brought by the Next Production Revolution, with special attention to under-represented groups.



Key Policy Priority 5. Reinforce the role of research in producing future knowledge and innovation, by identifying best practices in Science Technology Innovation financing policies and mechanisms.

Key Policy Priority 6. Reinforce synergies among G7 countries through their participation in Global Research Infrastructures and networks of e-Infrastructures, to reap the benefits of Open Science.

Key Policy Priority 7. Foster dialogue among G7 countries on policies that could contribute to the deployment and the interconnection of NPR-enabling quality infrastructures, such as high-speed broadband networks; smart energy grids; smart logistics and mobility platforms. Encourage policies that will enable people, businesses and researchers to access such infrastructure, providing them thus with access to new innovations that can create opportunities in all fields.

PILLAR III - FUTURE OF WORK

In this area, we identify two key policy priorities: (1) **dialogue** and (2) **inclusiveness**.

Key Policy Priority 8. Promote people-driven innovation that boosts both the quantity and quality of jobs.

Key Policy Priority 9. Design sound policies related to the future of work for inclusive and sustainable innovation-driven growth.

In accordance with national legislations, we task our Ministers competent for Industry, ICT, Science, Labor and Employment to further elaborate policies in accordance with these Main Policy Pillars, in their respective domains.

Furthermore, with reference to the deployment of Key Policy Pillar 7, as well as the above-mentioned Ministers, we request that specific collaboration be set in place also with the Ministers competent for Environment, Infrastructure and Transportation.

The respective outcomes will constitute separate annexes to this Action Plan and will be added at the end of the "G7 Innovation Week" (Turin, September 25-October 1).

1. We take note of the United States of America's intention to withdraw from the Paris Agreement.
2. The Environment and Climate Ministers of Canada, France, Germany, Italy, Japan and the United Kingdom, and European Commissioners responsible for environment and climate, reaffirm strong commitment to take the lead in the swift and successful implementation of the Paris Agreement which remains the global instrument for effectively and urgently tackling climate change and adapting to its effects. Welcome the continued support that the Paris Agreement has received from other countries, and subnational and non-state actors around the world.
3. The Environment and Climate Ministers of Canada, France, Germany, Italy, Japan, and the United Kingdom and the European Commissioners responsible for environment and climate agree that the Paris agreement is irreversible and its full integrity is key for the security and prosperity of our planet, societies and economies. Our actions will continue to be inspired and guided by the growing, global momentum to tackle climate change and to accelerate the irreversible transition to low-carbon, climate-resilient and resource-efficient economies.

(to be included at end of para 12) We stand ready to continue cooperating with all parties in the implementation of the Paris Agreement

Message

From: Clint Woods [cwoods@csg.org]
Sent: 5/15/2017 8:35:20 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: FW: AAPCA Comments on EPA Regulatory Reform Under EO 13777

From: Clint Woods
Sent: Monday, May 15, 2017 4:26 PM
To: 'Jackson.Ryan@EPA.gov'; 'dravis.samantha@epa.gov'; 'brown.byron@epa.gov'; 'bolen.brittany@epa.gov'
Cc: 'sean.alteri@ky.gov'
Subject: AAPCA Comments on EPA Regulatory Reform Under EO 13777

Members of the U.S. EPA Regulatory Reform Task Force,

Thank you for the opportunity to provide input to the Task Force on regulations that may be appropriate for repeal, replacement, or modification under Executive Order 13777, "Enforcing the Regulatory Reform Agenda." You can find a copy of comments from the Association of Air Pollution Control Agencies (AAPCA) [here](#), and these comments were also electronically transmitted to Regulations.gov for Docket ID: EPA-HQ-OA-2017-0190; *Evaluation of Existing Regulations*. While many state and local air agency members of AAPCA will be providing detailed comments to help inform the process, this [letter](#) identifies some key areas of concern from the Association's consensus comments, compilations of air agency feedback on recent U.S. EPA regulatory actions, and a member-generated list of more than 30 regulations and policies that may be appropriate for repeal, replacement, or modification pursuant to Executive Order 13777.

AAPCA and its members look forward to working with U.S. EPA and the Regulatory Reform Task Force as it evaluates existing regulations and makes recommendations to the Administrator regarding those that can be repealed, replaced, or modified to make them less burdensome. Please let us know if there is any additional information that would be helpful.

Clint Woods
Executive Director
Association of Air Pollution Control Agencies
1776 Avenue of the States
Lexington, KY 40511
859.244.8040 – office
cwoods@csg.org
<http://www.cleanairact.org>

 ASSOCIATION OF AIR POLLUTION CONTROL AGENCIES
2017 FALL BUSINESS MEETING
September 20–22 | Doubletree by Hilton | Raleigh, North Carolina

Message

From: Lauren Sheehan [LSheehan@afpm.org]
Sent: 6/6/2017 2:11:12 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: CEI Dinner

Personal Matters / Ex. 6

you get back and have a minute to breathe

I hope you have a great trip!! Hope to see you when

Lauren Sheehan
 Senior Manager
 Government Relations

American
 Fuel & Petrochemical
 Manufacturers
 1667 K Street NW
 Suite 700
 Washington, DC 20006
 202.457.0480 office
 202.552.8487 direct
 202.457.0486 fax
LSheehan@afpm.org

From: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Sent: Monday, June 5, 2017 5:10:05 PM
To: Lauren Sheehan
Subject: Re: CEI Dinner

Haha! Yes. Sorry for late notice. I'm in route now so will miss the CEI fun. Hope you all have a GREAT time!

Personal Matters / Ex. 6

Personal Matters / Ex. 6

Sent from my iPhone

On Jun 5, 2017, at 4:47 PM, Lauren Sheehan <LSheehan@afpm.org> wrote:

Just realized I put on the wrong email address for you, but I'll assume that you will be in Italy? You will be missed!

Personal Matters / Ex. 6

Lauren Sheehan
 Senior Manager
 Government Relations

American
 Fuel & Petrochemical
 Manufacturers
 1667 K Street NW
 Suite 700
 Washington, DC 20006
 202.457.0480 office
 202.552.8487 direct
 202.457.0486 fax
LSheehan@afpm.org

From: Gunasekara, Surya [<mailto:Surya@mail.house.gov>]
Sent: Monday, June 5, 2017 4:36 PM

To: Lauren Sheehan <LSheehan@afpm.org>

Cc: Mandy Gunasekara <Mandy_Gunasekara@epw.senate.gov>; Barnard, Brian <Brian.Barnard@mail.house.gov>; Robreno, Andrew <Andrew.Robreno@mail.house.gov>; Chris Parinello - Valero (Chris.Parinello@valero.com) <Chris.Parinello@valero.com>; Limardo, Rick <Rick.Limardo@mail.house.gov>

Subject: Re: CEI Dinner

Yes, but Mandy is out. She'll be at the G7 in Italy

Personal Matters / Ex. 6

Surya G. Gunasekara
Chief of Staff
Congressman Renacci (OH-16)

Sent from my iPhone

On Jun 5, 2017, at 4:12 PM, Lauren Sheehan <LSheehan@afpm.org> wrote:

Hi Everyone,

I just want to confirm that 1- you are all still planning on coming to the CEI dinner this Wed the 7th and 2- you should have received an email from them with more information (most of which I included in the calendar invite).

Mostly let me know if your plans have changed- look forward to seeing everyone!

Thanks!
Lauren

Lauren Sheehan
Senior Manager
Government Relations

American
Fuel & Petrochemical
Manufacturers
1667 K Street NW
Suite 700
Washington, DC 20006
202.457.0480 office
202.552.8487 direct
202.457.0486 fax
LSheehan@afpm.org

Message

From: Clowser, Jessica (Fischer) [Jessica_Clowser@fischer.senate.gov]
Sent: 5/31/2017 3:58:01 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Postponing Girls night

Haha! Just seeing this! I was in Brazil for school and then we went to Rio for the weekend! It was amazing ;) sorry for yelling at you out my car window.... Let's catch up soon!

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Monday, May 22, 2017 8:37 AM
To: Clowser, Jessica (Fischer) <Jessica_Clowser@fischer.senate.gov>
Subject: RE: Postponing Girls night

"out of the country" -sounds so fancy. Hope you are having an amazing trip somewhere (and buying lots of luxury goods ;)) and it was fun seeing you for a second last week!

From: Clowser, Jessica (Fischer) [mailto:Jessica_Clowser@fischer.senate.gov]
Sent: Monday, May 22, 2017 8:34 AM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Automatic reply: Postponing Girls night

Thank you for contacting me. I am out of the country until Wednesday, May 31. If you need immediate assistance, please contact 202-224-6551 or Cicely Batie (cicely_batie@fischer.senate.gov).

Jessica Clowser
Legislative Assistant
Office of U.S. Senator Deb Fischer
383 Russell Senate Office Building | Washington, DC 20510
202.224.5908 (direct)
202.224.6551 (main)
jessica_clowser@fischer.senate.gov

Message

From: McCollum, Jonathan [jim@dhclegal.com]
Sent: 5/24/2017 2:34:15 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: FW: New York Building Congress - Meeting Request on June 7th
Attachments: Inhofe-17-05-19.pdf

Hi Mandy,

I hope you're doing well.

I wanted to see if you would be able to encourage Senator Inhofe to take a meeting on June 7th with the New York Building Congress (NYBC).

As the Chairman of the Subcommittee on Transportation and Infrastructure, we believe that a meeting with this select delegation of 19 CEO's from the country's largest construction firms would be very productive.

I've attached an official meeting request from the NYBC and below you will find the list of attendees.

This group would like to offer their assistance to Senator Inhofe and be a resource moving forward. The 19 CEO's participating in this fly-in are responsible for 100% of the New York and New Jersey regions infrastructure projects and involved in most large projects around the country.

Your assistance is greatly appreciated.

Thank you,
Jonathan



Jonathan McCollum
Director, Federal Government Relations Group
Davidoff Hutter & Citron LLP
201 Massachusetts Avenue NE, Suite C-5, Washington, DC 20002
605 Third Avenue, New York, NY 10158
Tel: 202.347.1117
Fax: 202.638.4584
Email: jim@dhclegal.com
[Website](#)

From: McCollum, Jonathan
Sent: Monday, May 22, 2017 12:41 PM
To: wendi_price@inhofe.senate.gov; amanda_hall@inhofe.senate.gov; luke_holland@inhofe.senate.gov
Subject: New York Building Congress - Meeting Request on June 7th

Wendi, Amanda & Luke,

I hope you're doing well and had a nice weekend.

I wanted to flag for you the upcoming delegation visit by a select group of New York Building Congress Members on June 7th that will be focused on Transportation and Infrastructure.

This delegation will be led by Richard Cavallaro, President and CEO of Skanska USA and includes 19 CEO's of the largest construction and engineering firms in the country. This select group is responsible for 100% of the New York and New Jersey Regions infrastructure projects and are involved in most large-scale projects throughout the country.

We are starting to coordinate with the Secretary's Office at the Dept. of Transportation, the U.S. Chamber of Commerce and the White House National Economic Council on meeting times, but hope to make a meeting with Senator Inhofe a central focus of the day.

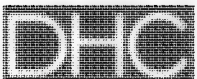
The list of 19 confirmed attendees for the New York Building Congress Infrastructure Delegation include:

1. Richard Cavallaro, President and CEO, Skanska USA, Inc.
2. Carlo A. Scissura, Esq., President and CEO, New York Building Congress
3. Greg Kelly, President and CEO – U.S., WSP | Parsons Brinckerhoff
4. Milo Rivero, President and CEO, STV Group, Inc.
5. Mike Sweeney, President – Northeast Division, HNTB
6. Eli Khoury, Senior Vice President, HDR
7. Chris Ward, SVP/Chief Executive, AECOM
8. Chris Larsen, Principal, Halmar International
9. Frank Sciamie, Chairman and CEO, Sciamie Construction LLC
10. Craig Ivey, President, Con Edison of New York
11. Jill Lerner, Principal, Kohn Pedersen Fox Associates, P.C.
12. Henry Kuykendall, Vice President- New York, Delta Airlines
13. Peter Kalikow, President, H.J. Kalikow & Co., LLC
14. Kenneth Daly, President, National Grid New York
15. Thomas Scarangelo, Chairman/CEO, Thornton Tomasetti
16. William Gilbane, III, Senior Vice President, Gilbane Building Company
17. Ralph Esposito, President, Lend Lease (US) Construction LMB, Inc.
18. Mike Carroll, CEO and President, CHA Companies
19. Peter Tully, President, Tully Construction

I've attached a meeting request from Carlo Scissura, President of the New York Building Congress.

Please let me know if you need any additional information and I look forward to working with all of you to ensure a successful meeting.

Thank you,
Jonathan



Jonathan McCollum

Director, Federal Government Relations Group

Davidoff Hutcher & Citron LLP

201 Massachusetts Avenue NE, Suite C-5, Washington, DC 20002

605 Third Avenue, New York, NY 10158

Tel: 202.347.1117 Cell: 303.898.6422

Fax: 202.638.4584

Email: jim@dhclegal.com

[Website](#)

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DANIEL R. TISHMAN
RICHARD L. TOMASETTI



May 19, 2017

Hon. James M. Inhofe
United States Senate
205 Russell Senate Office Building
Washington, DC 20510-3603

Dear Chairman Inhofe:

On June 7, a New York Building Congress delegation of industry presidents and CEOs will be in Washington to discuss New York and national infrastructure priorities and provide input on President Trump's proposed \$1 trillion infrastructure program. We respectfully request a meeting with you, as the Senate Subcommittee on Transportation and Infrastructure will have an important role in shaping this plan.

Our industry delegation is listed on the attached page. We hope you may be available to meet with a contingent of our group at any time on June 7.

We sincerely believe that leadership in Washington will find our industry's expertise to be invaluable in designing, financing, and building major infrastructure projects throughout the United States. We can help clarify national infrastructure priorities, and define strategies to accelerate delivery of important projects. This meeting can play an important part in articulating the details of those goals.

The President's infrastructure proposal is essential to improving our nation's transportation infrastructure and assuring continued economic growth and prosperity. I hope you will be able to meet with our delegation and discuss how to meet these important objectives.

Very Truly Yours,

Carlo A. Scissura, Esq.
President and CEO

New York Building Congress Infrastructure Delegation to Washington D.C.

Richard Cavallaro, President and CEO, Skanska USA, Inc.
Carlo A. Scissura, Esq., President and CEO, New York Building Congress
Greg Kelly, President and CEO – U.S., WSP|Parsons Brinckerhoff
Thomas Prendergast, Executive Vice President, STV Group, Inc.
Mike Sweeney, President – Northeast Division, HNTB
Eli Khoury, Senior Vice President, HDR
Chris Ward, SVP/Chief Executive, AECOM
Chris Larsen, Principal, Halmar International
Frank Sciamè, Chairman and CEO, Sciamè Construction LLC
Jill Lerner, Principal, Kohn Pedersen Fox Associates, P.C.
Henry Kuykendall, Vice President - New York, Delta Airlines
Kenneth Daly, President, National Grid New York
Thomas Scarangelo, Chairman/CEO, Thornton Tomasetti
William Gilbane, III, Senior Vice President, Gilbane Building Company
Ralph Esposito, President, Lend Lease (US) Construction LMB, Inc.
Cheryl McKissack, President/CEO, McKissack & McKissack
Michael Carroll, Chief Executive Officer and President, CHA Companies
George Leventis, Principal, Langan

Message


From: Hackler, Brian (Inhofe) [Brian_Hackler@inhofe.senate.gov]
Sent: 6/12/2017 1:46:05 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Grube

Will you have a chance to talk about Don Grube sometime this week?

Brian Hackler
State Director
Office of U.S. Senator Jim Inhofe
405-608-4381

Message

From: President's Executive Order - Workforce [PotomacForum@PresidentsEOworkforce.org]
Sent: 5/30/2017 5:14:22 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: [SPAM] Early Bird Until June 2nd -Workshop to Implement Workforce Requirements of the President's EO 13781

	
<p>Workforce Requirements of the President's Executive Order 13781 Training Workshop June 28, 2017</p> <p><i>Confirmed Speakers</i> Terry Gerton President & CEO National Academy of Public Administration (NAPA)</p> <p>---</p> <p>Bob Corsi Secretary of Board of Directors Senior Executives Association (SEA) Former Assistant Deputy Chief of Staff for Manpower, Personnel and Services Headquarters, U.S. Air Force</p> <p>---</p> <p>Rebecca Ayers Performance Management Solutions, OPM</p> <p>---</p> <p>Tom Gilbert Assistant Director of Strategic Issues, GAO</p> <p>---</p> <p>Deb Tomchek Former Director of Human</p>	<p>Not Just Human Capital - Please Review and Forward to Your Government Executives, Managers and Staff Who Play a Part in Meeting the Workforce Requirements of the President's Executive Order</p> <p><i>Potomac Forum Training Workshop</i></p> <p>The President's Executive Order: How to Meet the Workforce Requirements of the President's Executive Order 13781 Training Workshop</p> <p><i>What Federal Executives, Managers, and Supervisors Need to Know to Support the Goals of the Executive Order for Reforming the Federal Government and Reducing the Federal Civilian Workforce</i></p> <p>Date: Thursday, June 28, 2017</p> <p>Sponsored by:</p> <p><u>Potomac Forum, Ltd.</u> <u>the leader in high quality training since 1984</u></p>

**Resources (HR)
DOJ and DOC**

**Marcus Brownrigg
Strategic Partnerships and
Communications Advisor
Office of the Chief
Executive Officer
Corporation for National
and Community Service
(CNCS)**

**Jeffrey Neal
Senior Vice President, ICF
Former CHCO at DLA and
DHS**

**Lou Kerestesy
Founder & CEO
GovInnovators**

**Mika Cross
Federal Workplace Expert**

**www.PotomacForum.org
(703) 683-1613
info@PotomacForum.org**

**Location of Workshop:
Willard InterContinental Hotel
Washington, D.C.**

**Potomac Forum Training Workshops
are 100% Educational
and NOT Sales or Marketing Events**

**The Press is Not Permitted to
Encourage
Candid Discussion in our 100%
Learning Environment**

**"Early Bird" Reduced Registration
Until June 2nd**

Overview:

The president issued an executive order (EO) on March 13, 2017 which requires agencies to plan and implement long-term workforce reductions and incorporate the plan as a government-wide workforce priority into their Agency Strategic Plan and/or Human Capital Operating Plan.

This Potomac Forum training workshop for government will provide information for agency executives, managers, and staff to respond to the EO.

Experienced human capital executives and experts will share their insight and experience in developing and implementing long-term and near-term workforce management practices that will help attendees understand how best to improve performance, increase accountability, and reduce costs.

This workshop will provide you with practical, easy-to-implement tools and resources to help you achieve the best results through your agency's efforts to restructure, reshape and eliminate inefficient functions to

achieve the goals of EO 13781 while enhancing employee performance to increase mission efficacy and increase retention.

What You Will Learn:

- **A framework to plan for reorganization and functional consolidation**
- **Avoiding common pitfalls to managing performance and conduct in the modern workplace**
- **Where to find practical support mechanisms, resources and help for managers and supervisors**
- **How to prepare the workforce for activities in cost cutting, reshaping, reducing, and reorganization**
- **Managing change through effective internal and external communications**
- **Driving positive outcomes by leveraging the Federal Employee Viewpoint Survey Results into actionable steps that help cultivate an inclusive culture designed to retain top talent and optimize employee potential**

Why You Should Attend:

- **Learn proven management strategies to demonstrate return on investment, cost savings, and enhanced management efficiencies from developing an effective long-term workforce reduction plan**
- **Understand how to leverage alternative service delivery models and streamline mission support functions to provide greater efficiency while improving quality**
- **Maximize employee performance by focusing on concrete steps to increase performance and effectively deal with poor performers**
- **Optimize employee recognition programs designed to recognize, reward and retain top performers**
- **Build your toolkit for cultivating a culture of engagement and accountability designed to achieve enhanced organizational and individual performance**

Who Should Attend:

- **Federal supervisors and managers**
- **Federal HR practitioners and anyone responsible for implementing agency restructuring plans**
- **Inspector Generals and Staff**

- **Federal employees or members of employee affinity groups**
- **Communications practitioners responsible for leading change management and internal communications campaigns**

Format:

Lecture, guest speakers, and practical exercises.

CEUs Awarded Upon Workshop Completion

Press is NOT Invited to Register or Attend

"Early Bird" Reduced Registration Until June 2nd

"Send-A-Team" Registration Fees

No Press to Promote Candid Discussion

Registration and Information:

www.potomacforum.org

Call: (703) 683-1613

Info@PotomacForum.org

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This email was sent to: gunasekara.amanda@epa.gov

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Potomac Forum, Ltd.

This email was sent by: **Potomac Forum, Ltd.**
400 North Washington Street , Alexandria , Virginia, 22314 , USA

Message

From: Scott Yager [syager@beef.org]
Sent: 6/12/2017 7:01:03 PM
To: Pruitt, Scott [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=757bedfd70ca4219b6d8046f5ce5681e-Pruitt, Sco]; Greenwalt, Sarah [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6c13775b8f424e90802669b87b135024-Greenwalt,]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Ferguson, Lincoln [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=08cd7f82606244de96b61b96681c46de-Ferguson, L]
Subject: FW: NCBA-PLC letter of support for Susan Bodine for EPA OECA
Attachments: image001.png; NCBA-PLC Bodine Support Letter_Barrasso_Carper_FINAL.pdf

Colleagues at EPA, FYI our support letter for Susan Bodine as head of OECA. -Scott

From: Scott Yager
Sent: Monday, June 12, 2017 2:59 PM
To: 'richard_russell@epw.senate.gov' <richard_russell@epw.senate.gov>; 'brian_clifford@epw.senate.gov' <brian_clifford@epw.senate.gov>; 'matt_leggett@epw.senate.gov' <matt_leggett@epw.senate.gov>
Subject: NCBA-PLC letter of support for Susan Bodine for EPA OECA

Friends at EPW,

I'm attaching NCBA and PLC's support letter for Susan Bodine to lead EPA's Office of Enforcement and Compliance Assurance, for the record. I'm also planning to send to staff in Barrasso and Carper's office. Thank you!

Scott Yager
Environmental Counsel
 National Cattlemen's Beef Association
 1275 Pennsylvania Ave, NW Suite 801
 Washington DC, 20004
 202-879-9102



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**National Cattlemen's
Beef Association**

Cattlemen • Leadership • Solutions



June 12, 2017

The Honorable John Barrasso
Chairman, U.S. Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510-6176

The Honorable Thomas Carper
Ranking Member, U.S. Senate Committee on Environment and Public Works
456 Dirksen Senate Office Building
Washington, D.C. 20510-6176

Dear Chairman Barrasso and Ranking Member Carper:

The National Cattlemen's Beef Association (NCBA) and the Public Lands Council (PLC) urge you to vote in favor of Susan Bodine as Assistant Administrator of the Office of Enforcement and Compliance Assurance (OECA) of the Environmental Protection Agency (EPA). NCBA is the cattle industry's largest and oldest national trade association, representing American cattle producers who provide much of the nation's food supply and manage a large part of America's private property. PLC is the only national organization dedicated solely to representing the roughly 22,000 ranchers who hold federal grazing permits and operate on federal lands. Our organizations strongly believe Bodine's nomination is an important step towards protecting our environment through firm, but fair, compliance and enforcement measures.

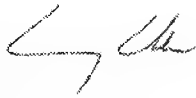
Bodine has impeccable credentials with 29 years of environmental law and policy experience garnered from leadership positions in the federal government and private sector. Bodine currently serves as Chief Counsel for the Senate Committee on Environment and Public Works, and she was previously the staff director and senior counsel for the House Subcommittee on Water Resources and Environment, and the House Committee on Transportation and Infrastructure. During the George W. Bush Administration, Bodine served as the Assistant Administrator of EPA's Office of Solid Waste and Emergency Response. Bodine was a partner at Barnes & Thornburg LLP where she led coalition efforts on environmental issues. She has proven her commitment to public service and she is a distinguished expert in environmental law, which will prove invaluable in her role as Assistant Administrator of OECA.

On a personal level, NCBA and PLC have found Bodine to be a valuable resource due to her breadth of experience and knowledge. And importantly, she is fair and impartial in all areas of her work.

America's livestock producers are invested in keeping our air, water, and land clean for future generations of livestock producers. A compliance-first approach to regulatory programs would enable farmers and ranchers to work with EPA as partners in environmental stewardship rather than simply being regulatory targets. With Bodine at the helm of OECA, we believe we can achieve this goal and herald an era of environmental success.

For these reasons and many more, NCBA and PLC strongly support Susan Bodine's nomination to Assistant Administrator of OECA.

Sincerely,



Craig Uden
President
National Cattlemen's Beef Association



David Eliason
President
Public Lands Council

cc: The Honorable Scott Pruitt, Administrator, United States Environmental Protection Agency

Message

From: Birsic, Michael J. (MPC) [mjbirsic@marathonpetroleum.com]
Sent: 5/17/2017 7:14:52 PM
To: Hupp, Sydney [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d50089ff1a5b4c83baa0160afe2c33cb-Hupp, Sydne]
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Dickerson, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d0440d9f06994021827e0d0119126799-Dickerson,]
Subject: RE: [EXTERNAL] Admin. Meeting Request for MPC

Hi Sydney,

Thanks for getting back to me. I am going to check with his assistant and get back to you as soon as I can.

Mike

From: Hupp, Sydney [mailto:hupp.sydney@epa.gov]
Sent: Wednesday, May 17, 2017 3:13 PM
To: Birsic, Michael J. (MPC)
Cc: Gunasekara, Mandy; Dickerson, Aaron
Subject: RE: [EXTERNAL] Admin. Meeting Request for MPC

Hi again Mike, how would 2:30 on the 20th work for Mr. Heminger?

Thank you!

Sydney Hupp
 Executive Scheduler
 Office of the Administrator
Personal Phone / Ex. 6

From: Birsic, Michael J. (MPC) [mailto:mjbirsic@marathonpetroleum.com]
Sent: Thursday, May 11, 2017 1:50 PM
To: Hupp, Sydney <hupp.sydney@epa.gov>
Cc: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>; Dickerson, Aaron <dickerson.aaron@epa.gov>
Subject: Re: [EXTERNAL] Admin. Meeting Request for MPC

Great! Thank you Sydney, I really appreciate your help.

On May 11, 2017, at 1:42 PM, Hupp, Sydney <hupp.sydney@epa.gov> wrote:

Good afternoon Mike,

Thank you for reaching out! Apologies for the delay in getting back to you. We will be traveling internationally on June 6 but let me check on the 20-21st.

Thank you!

Sydney Hupp

Executive Scheduler
Office of the Administrator

Personal Phone / Ex. 6

From: Birsic, Michael J. (MPC) [mailto:mjbirsic@marathonpetroleum.com]
Sent: Thursday, May 11, 2017 9:00 AM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>; Hupp, Sydney <hupp.sydney@epa.gov>
Subject: RE: [EXTERNAL] Admin. Meeting Request for MPC

Sydney,

Hope you are well. I just wanted to circle back with you on this request. Actually, on June 6, BRT is holding their meeting and there will be a lot of CEO's in town for the meeting. We have been speaking with Chevron and wanted to see if the Administrator would potentially be interested in doing a joint meeting with Mr. Heminger, as well as Chevron's CEO, John Watson.

Please let me know if you think we can make a time on June 6 work for a meeting with both of our companies. Thanks!

Mike

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Monday, May 08, 2017 11:00 AM
To: Hupp, Sydney
Cc: Birsic, Michael J. (MPC)
Subject: [EXTERNAL] Admin. Meeting Request for MPC

Hi Sydney,
Marathon Petroleum Corp.'s CEO, Gary Heminger, will be in town June 20-21 and is looking to meet with the Administrator. I've cc'd Mike Birsic who is a good friend and is the point person for setting this up. Mr. Heminger would like to talk about RFS and air regulations, among other things.
Mike, fill in any missing details.
Sydney, let me know if you need anything else from my end in the interim.
Best,
Mandy

Message

From: Neal, Aubrey [Aubrey.Neal@mail.house.gov]
Sent: 5/23/2017 5:58:15 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Hamill, Bobby [Bobby.Hamill@mail.house.gov]
Subject: Proposed Legislation: GHGP2 and Truck Trailers
Attachments: LOUDERMILK GHGP2 DRAFT_xml.pdf

Good Afternoon Mandy,

Earlier this week you met with representatives from the International Foodservice Distributors Association (IFDA) in regard to the *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium and Heavy-Duty Engines and Vehicles - Phase 2's* definition and effects on tractor trailers. Congressman Loudermilk and Congressman Griffith have been partners with IFDA in fighting these effects in the House, so I wanted to reach out to ensure our actions complement one another. To this end, attached is the text of a bill we intend to introduce – we would love to make sure we are on the same page.

I look forward to working with you!

Best,

Aubrey Neal

Legislative Assistant
Congressman Barry Loudermilk | GA-11
329 Cannon HOB | Washington D.C. 20515
(202) 225-2931 | loudermilk.house.gov

115TH CONGRESS
1ST SESSION

H. R. _____

To limit the applicability of the final rule entitled “Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2” to the extent such final rule relates to trailers that do not themselves emit greenhouse gases in connection with a propulsion system.

IN THE HOUSE OF REPRESENTATIVES

Mr. LOUDERMILK introduced the following bill; which was referred to the Committee on _____

A BILL

To limit the applicability of the final rule entitled “Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2” to the extent such final rule relates to trailers that do not themselves emit greenhouse gases in connection with a propulsion system.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “_____ Act of 2017”.

1 **SEC. 2. LIMITATION OF APPLICABILITY OF CERTAIN RULE**
2 **TO THE EXTENT SUCH RULE RELATES TO**
3 **TRAILERS THAT DO NOT THEMSELVES EMIT**
4 **GREENHOUSE GASES IN CONNECTION WITH A**
5 **PROPULSION SYSTEM.**

6 (a) PROHIBITION.—The final rule entitled “Green-
7 house Gas Emissions and Fuel Efficiency Standards for
8 Medium- and Heavy-Duty Engines and Vehicles—Phase
9 2” published in the Federal Register on October 25, 2016
10 (81 Fed. Reg. 73478) shall cease to apply to the extent
11 such final rule relates to trailers that do not themselves
12 emit greenhouse gases in connection with a propulsion sys-
13 tem.

14 (b) CONFORMING CHANGES.—[Not later than
15 _____ after the date of enactment of this Act,] the Ad-
16 ministrators of the Environmental Protection Agency and
17 the National Highway Traffic Safety Administration, act-
18 ing jointly, shall promulgate a final regulation revising the
19 final rule cited in subsection (a) (including the amend-
20 ments to the Code of Federal Regulations made thereby)
21 so as to make such final rule inapplicable to the extent
22 such final rule relates to trailers that do not themselves
23 emit greenhouse gases in connection with a propulsion sys-
24 tem.

```

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Message

From: Geoffrey Moody [GMoody@afpm.org]
Sent: 5/16/2017 10:03:01 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: AFPM meeting request

Mandy, if you're amenable I'd like to bring in our new SVP of Federal Affairs, Derrick Morgan, to meet you and anyone else from the team you think appropriate. Derrick was most recently Sen. Sasse's CoS so you may know him from your time in the Senate. Do you have some availability in early June for us to come over and make introductions?

Thanks,

Geoff Moody
Vice President
Government Relations

American
Fuel & Petrochemical
Manufacturers
1667 K Street NW
Suite 700
Washington, DC 20006
202.457.0480 office
202.552.8489 direct
202.457.0486 fax

gmoody@afpm.org
Learn more about AFPM at afpm.org

Message

From: Matt Ogren [MOgren@insightwebpoll.com]
Sent: 5/25/2017 7:00:42 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: TradeMarks Study 2017: a charitable contribution for your thoughts

Hello Amanda Gunasekara,

There is still time to share your impressions in the 4th annual TradeMarks Study gathering perceptions on trade associations.

APCO is making \$5,000 in charitable contributions to charities selected by individuals completing the survey. We will also send you an advance copy of the study's executive summary when the study is completed.

Will you please set aside 15 minutes of your time over the next few days?

To participate, please click on the button below.

START NOW

Alternatively, you can copy and paste the following URL into your internet browser:

<http://www.insightwebpoll.com/association2017&p=E4754>

Rest assured, this survey is completely confidential; your name and affiliation will not be reported with the responses you provide, and

we recognize that you are sharing your *personal* opinions and not those of any organization.

Should you have any questions or difficulties completing this survey, please feel free to contact me.

Thank you in advance for your participation.

Matt Ogren
Study Director

5086 List Drive, Colorado Springs, CO 80919
[Unsubscribe](#)

Message

From: Lauren Sheehan [LSheehan@afpm.org]
Sent: 6/1/2017 5:34:51 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Quick Question

Hey Mandy-

I just texted you but my phone is about to die so just following up via email (and I don't want you think im stalking you). I was wondering if you had a few minutes to talk quickly about the Pruitt meeting AFPM Ceo's had originally scheduled for the 15th at 2 and has since been cancelled because of a hearing. Let me know what works for you—I am pretty flexible all afternoon.

Thank you!!
Lauren

Lauren Sheehan
Senior Manager
Government Relations

American
Fuel & Petrochemical
Manufacturers
1667 K Street NW
Suite 700
Washington, DC 20006
202.457.0480 office
202.552.8487 direct
202.457.0486 fax
LSheehan@afpm.org

Message

From: Brian Jennings [bjennings@ethanol.org]
Sent: 5/31/2017 3:38:33 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: FW: Administrator Pruitt Participation-- ACE Conference
Attachments: Pruitt Invite ACE Conference 2017.pdf

Mandy,

I hope this finds you well. I'm the Executive VP of the American Coalition for Ethanol (ACE). We invited Administrator Pruitt to our DC fly-in (March) but he was unable to join us, and we've been notified that he's got a traveling conflict with our invitation for him to speak at our annual conference in Omaha (Aug. 16-17). Attached is the invite we sent about our conference.

Would you or someone on his staff who works on ethanol/renewable fuels policy be able/willing to speak to our conference attendees in Omaha since Administrator Pruitt is unable? They are eager to hear from EPA on the priority issues facing us, including RFS implementation, RVP, regulatory reform, etc. Please let me know if you have any questions or if I can provide some information to help you. Thanks for your consideration.

Brian

Brian Jennings
Executive Vice President
 AMERICAN COALITION for ETHANOL
 605-334-3381 ext. 12
 ethanol.org

From: Shannon Gustafson
Sent: Friday, May 26, 2017 10:07 AM
To: Brian Jennings
Subject: FW: Administrator Pruitt Participation-- ACE Conference

Pruitt invite and response from scheduler attached.

From: Hupp, Sydney [mailto:hupp.sydney@epa.gov]
Sent: Monday, May 15, 2017 11:00 AM
To: Shannon Gustafson
Cc: Dickerson, Aaron
Subject: Administrator Pruitt Participation-- ACE Conference

Good afternoon Shannon,

Hopeful that this email finds you well! Thank you for reaching out and inviting Administrator Pruitt to participate in the ACE Conference. Unfortunately we are traveling that week so he will not be able to attend. Please never hesitate to reach out to us in the future!

Thank you!

Sydney Hupp
 Executive Scheduler
 Office of the Administrator

Personal Phone / Ex. 6



May 2, 2017

The Honorable Scott Pruitt
Environmental Protection Agency
Office of the Administrator 1101A
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Pruitt:

On behalf of the American Coalition for Ethanol (ACE) congratulations on your confirmation as Administrator of the Environmental Protection Agency. We look forward to working with you and your staff on a host of important issues.

I'm writing to invite you to address the hundreds of people expected to attend ACE's 30th annual Ethanol Conference at the Doubletree Hotel in Omaha, NE August 15-17, 2017. The theme for our 30th annual event is "Tested. Proven. Driven." This event draws hundreds of people from around the country; ethanol producers, farmers, investors, goods and service providers and many more.

Our audience and members would greatly appreciate hearing from you on critical regulatory issues relating to the production and use of renewable fuels.

We hope your schedule allows you to join us during the general session on August 16th or 17th between 8:00am and noon. Should you have questions or concerns, please have your staff contact Shannon Gustafson of ACE at 605-334-3381 ext. 16 or sgustafson@ethanol.org. Thank you for your time and consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Jennings".

Brian Jennings, Executive Vice President
American Coalition for Ethanol (ACE)

Message

From: Caron De Mars **Personal Email / Ex. 6**
Sent: 6/12/2017 6:39:21 PM
To: booking@queenlimousine.com
CC: Kasman, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=419892c6fdc74087b775abb683821344-MKasman]; Federica Signoretti [SignoretF@state.gov]; Michael Lee [LeeMD2@state.gov]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Dravis, Samantha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ece53f0610054e669d9dffe0b3a842df-Dravis, Sam]
Subject: Re: Change in pickup time- Dravis and Gunesakara from 7:40am to 9am

Grazie mille!

Sent from my iPhone

On Jun 12, 2017, at 7:09 PM, Caron De Mars **Personal Email / Ex. 6** wrote:



<icon.png>



<mime-attachment>

<mime-attachment>

Message

From: Chris Bliley [cbliley@growthenergy.org]
Sent: 6/1/2017 2:29:41 PM
Subject: Updated E15 Growth
Attachments: MDEV 17010 E15 PTP Progress 2017-06-01.pdf

FYI – the attached highlights the latest map and locations of the 830 E15 locations in 29 states. If you have any questions, please let me know.

Chris

Chris Bliley | Vice President, Regulatory Affairs

Growth Energy

701 8th St NW Suite 450

Washington DC 20001

OFFICE 202.545.4023 CELL 202.579.7418

TWITTER [@GrowthEnergy](https://twitter.com/GrowthEnergy)

FACEBOOK [growthenergy.org/facebook](https://www.growthenergy.org/facebook)

WEBSITE www.growthenergy.org

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E15 Rapidly Moving Into the Marketplace

Today, there are **830 retail locations in 29 states** selling E15 usually between 3-10 cents below regular gasoline.

The vast majority of these locations are selling E15 along with E85 at blender pumps and making both available at nearly every dispensing location.

PARTNERSHIPS. Of the 830 E15 locations, 586 are partnered in the Biofuels Infrastructure Partnership (BIP) program with many more high volume retailers on the way.

MOVERS. Major retailers selling or committed to selling E15 include: Sheetz, Thorntons, Kum & Go, RaceTrac, Casey's, QuikTrip, Kwik Trip, Minnoco, Murphy USA, Cenex, Protec Fuels, Family Express and MAPCO.



LOCATION. These retailers are not exclusively in the rural Midwest, many of these retailers are in major metropolitan areas: Houston, Chicago, Dallas, San Antonio, Charlotte, Atlanta, Louisville.

VOLUME. The average convenience store sells 1 million gallons of gasoline per year on average; while the bulk of the retailers involved in the Biofuels Infrastructure Partnership (BIP) program and industry-sponsored Prime the Pump program sell 2.8 million gallons per year on average – nearly 3 times as much volume as the traditional retailer.

BLEND. The retailer partners are seeing an average ethanol blend rate that easily exceeds 10 percent. These retailers have easily pushed beyond the so-called 10 percent blend wall.



Renewable Fuel Standards

Action needed: Use EIA data on E0 when proposing and setting 2018 RVOs.

- **The 2018 NPRM should incorporate EIA estimates of E0 consumption. This NPRM is an opportunity to correct EPA’s pattern of significantly underestimating E0 use and overstating, by hundreds of millions of gallons, the amount of ethanol used in E10. This error leads to inflated RVOs which lead to inflated RIN prices.**

In a recent analysis, EIA determined that the nation uses 5.3 *billion* gallons of E0¹. In calculating the proposed volumes for 2017, EPA chose to assume that only 200 *million* gallons of E0 will be used. As a result, EPA overstated ethanol consumption by more than 500 million gallons.

The 2017 Final Rule was based on the unfounded expectation that “the RFS program would result in all but a tiny portion—estimated at 200 million gallons—of gasoline to contain at least 10% ethanol.”² EPA adopted that position by ignoring all E0 use except projected use by recreational marine engine owners. That approach is not defensible, especially in light of EIA data showing that domestic E0 consumption exceeds five *billion* gallons. The 2018 proposed RVO should correct this mistake. Correcting this gross understatement of E0 usage requires EPA to reduce its projections of ethanol use in the United States by several hundred million gallons.

Doing so would harmonize EPA’s estimates regarding E0 consumption with the estimates of its sister agency, EIA. In the 2014-2016 Final Rule, EPA declined to rely on EIA data regarding domestic E0 use on the grounds that it was “not an appropriate basis for determining the amount of E0 actually sold at retail, and thus cannot be used to estimate likely E0 sales.”³ EIA has recognized that “actual use of E0 in vehicles, boats, and other equipment with gasoline-burning engines was likely [lower than shown in EIA data] because *some volumes of E0* that enter the domestic market *may have been* blended with ethanol *at smaller terminals that are out of scope for EIA reporting or blended at the point of retail sale.*”⁴

But EIA’s May 2016 analysis addressed this point directly. The adjusted analysis still “impl[ies] a remaining supply of . . . 5.3 *billion gallons*[] of unblended E0 to final consumers in the United States in 2015.”⁵ In other words, according to EIA’s analysis of E0 supply, EPA has underestimated E0 by 5.1 billion gallons—and, by treating that fuel as E10 instead of E0, EPA has overstated ethanol consumption by over 500 million gallons.

The docket shows that the Office of Management and Budget raised this same issue with EPA shortly after the EIA published the aforementioned article, and before EPA publicly issued the NPRM for 2017. Specifically, in response to the “illustrative” scenarios that EPA proposed for the 2017 NPRM, an OMB

¹ EIA, Almost All U.S. Gasoline Is Blended with 10% Ethanol (May 4, 2016), <http://www.eia.gov/todayinenergy/detail.cfm?id=26092>

² 2017 Final Rule, 81 Fed. Reg. at 89775.

³ 2014-2016 Final Rule, 80 Fed. Reg. at 77,462.

⁴ EIA, Almost All U.S. Gasoline Is Blended with 10% Ethanol (May 4, 2016), <http://www.eia.gov/todayinenergy/detail.cfm?id=26092> (emphasis added).

⁵ Id. (emphasis added).

commentator remarked: “The E0 volumes are well below an EIA estimate of likely actual volumes consumed today.”⁶ EPA responded:

We have taken the same approach to E0 volumes for 2017 as we did in the 2014-2016 final rule. Specifically, the E0 estimates in the referenced table represent the demand for E0 among owners of recreational marine engines that we believe would continue under the influence of the 2017 standards. . . . The volume of E0 consumed today among all consumers is not the basis for estimating E0 volumes for 2017. Moreover, we believe that EIA data estimates of actual E0 volumes do not account for all ethanol blending.⁷

That response is not adequate. EIA data show that EPA is certainly mistaken in the assumption that recreational marine engine owners are the only users of E0, and while EIA data may not account for all ethanol blending, rational decision-making requires EPA to make a more sincere and comprehensive effort to reconcile the *five-billion-gallon* gap between EIA’s estimate of E0 consumption and the estimate used by EPA, and to explain why EIA’s effort to adjust for E0 blended with ethanol at smaller terminals is inadequate.

To the extent EPA is purposefully ignoring all E0 except the amounts consumed by recreational marine engines in order to “incentiviz[e] the market to continue to transition from E0 to E10 and other higher level ethanol blends,”⁸ that decision is not justified. There is no factual basis for believing that the RFS program can lead consumers, in 2017 or 2018, to eliminate the 5 billion or more gallons of E0 that they have used consistently for years. The 2018 rule must take into account the actual use of all E0 and its corresponding impact on ethanol supply.

⁶ Summary of Interagency Working Comments on Draft Language under EO 12866 and EO 13563 Interagency Review 5 (May 11, 2016), <https://www.regulations.gov/document?D=EPAHQ-OAR-2016-0004-0080>.

⁷ Id. at 6.

⁸ 2017 Final Rule, 81 Fed. Reg. at 89775.

Renewable Fuel Standards

Action needed: Grant pending petitions to expand the regulatory definition of “obligated party”; initiate and complete a rulemaking ASAP.

Background on Point of Obligation

On November 10, 2016, EPA issued a proposed denial of petitions filed by multiple merchant refiners and AFPM, the refiner trade association. The petitions ask EPA to expand the regulatory definition of “obligated party” under the Renewable Fuel Standard (RFS) to align the point of obligation with the point of compliance.

The Agency issued a factually inaccurate and poorly reasoned 50 page paper to explain the proposed denial and opened a public comment period that closed on February 22, 2017.

There is sufficient evidence in the docket to support a decision by EPA to change course, grant the petitions, and initiate an expedited rulemaking to expand the regulatory definition of “obligated party” under the RFS.

This action is necessary to preserve merchant refining and jobs. Under the current system, these refineries must buy credits known as renewable identification numbers (RINs) and turn them in to EPA to demonstrate compliance with the RFS each year.

RINs have become the single largest operating expense for these merchant refineries, exceeding labor, maintenance and energy costs. These refineries are now spending well over \$1 billion annually for RINs. This cost is unsustainable and, if not changed, will likely cause a number of refining bankruptcies.

The current definition of “obligated party” distorts the market and creates a windfall for blenders who control RINs and can sell them to refiners, importers or unobligated speculators.

Aligning the point of obligation with the point of compliance will improve the efficiency, fairness and effectiveness of the RFS program. In addition to helping to preserve merchant refiners and refining jobs, this action will benefit renewable fuel producers and small retailers.

Under a new definition that includes refiners, importers and blenders who own fuel at the terminal rack – the point at which most blending decisions are made -- the market would operate more efficiently and equitably.

Notwithstanding the unsupported assertions being made by opponents of the change, evidence in the administrative record shows that:

- 1) The current program is neither efficient nor effective;
- 2) The current program unnecessarily creates “winners and losers”; it is harming merchant refiners, small retailers and is a serious threat to thousands of jobs;
- 3) Changing the point of obligation will not increase the complexity of the program. It will not –

- a) Significantly increase the number of obligated parties; the number of obligated parties will stay about the same as it is now;
 - b) Adversely affect small entities;
 - c) Create substantial burdens for newly obligated parties;
 - d) Cause significant market disruption;
 - e) Increase the potential for noncompliance; or
 - f) Adversely affect EPA's ability to conduct program oversight and enforcement.
- 4) Changing the point of obligation will make the program more efficient and effective; it will --
- a) Improve incentives to promote renewable fuel use;
 - b) Reduce opportunities for speculation, manipulation and fraud in the RIN market;
 - c) Eliminate a serious threat to the continued viability of merchant refiners and thousands of jobs that rely on the merchant refining industry; and
 - d) Benefit small retailers by creating a level playing field for all transportation fuel market participants.

Message

From: Hall, Amanda (Inhofe) [Amanda_Hall@inhofe.senate.gov]
Sent: 5/16/2017 9:55:18 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Quick question

Hey I'm sorry I got caught up in a hearing. I believe we found the answer so I apologize for the false alarm. I appreciate your help though!

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Tuesday, May 16, 2017 2:17 PM
To: Hall, Amanda (Inhofe) <Amanda_Hall@inhofe.senate.gov>
Subject: Re: Quick question

202-564-2314

I'll be back in around 4:30

Sent from my iPhone

On May 16, 2017, at 1:15 PM, Hall, Amanda (Inhofe) <Amanda_Hall@inhofe.senate.gov> wrote:

Hey Mandy – I have a quick work-related question for you. Could I give you a call? If so, what's the best number to reach you at?

Thank you,

Amanda Hall
Legislative Assistant
Office of U.S. Senator James M. Inhofe
(202)224-4721

Message

From: Lee Janger [lee@armitagellc.com]
Sent: 6/7/2017 4:36:32 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Meeting Request - June 14

Hi Mandy,

I thought I'd try again to reach and see if you and/or your policy team are able to meet next week on Wednesday, June 14th with our auto supplier group.

Again, I apologize for all the emails and calls.

Best regards,
-Lee

From: Lee Janger
Sent: Thursday, June 01, 2017 11:51 AM
To: 'Gunasekara.Mandy@epa.gov' <Gunasekara.Mandy@epa.gov>
Subject: RE: Meeting Request

Hi Mandy,

Sorry we couldn't meet with you, Samantha or Brittany last week. Alex did admirably in your absence as he was familiar with our group from our visits to Mr. Renacci's office last year.

Not to be a pest, but I am hoping we can reschedule and meet with you and your policy team on either June 13 or 14.

Please let me know if your schedule has any openings either of those days.

Best regards,
-Lee

Lee J. Janger
Director, Legislative and Regulatory Affairs
Alliance for Vehicle Efficiency
202.607.0723
Lee@ArmitageLLC.com

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From: Gunasekara, Mandy [<mailto:Gunasekara.Mandy@epa.gov>]
Sent: Friday, April 28, 2017 1:18 PM
To: Lee Janger <lee@armitagelc.com>; Washington, Valerie <Washington.Valerie@epa.gov>
Subject: RE: Meeting Request

Hi Lee,

Happy to set something up. Valerie, can you set a meeting up and coordinate with either Robin or Carolyn to ensure it works with Samantha and Brittany's schedule? It would be good for us all to meet with Lee and his group.

Thanks,
Mandy

From: Lee Janger [<mailto:lee@armitagelc.com>]
Sent: Friday, April 28, 2017 12:44 PM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Meeting Request

Hi Mandy,

I am hoping to schedule a meeting with you for **the afternoon of May 22nd or anytime on May 23rd or 24th.**

For the last 8 years, I have represented an auto supplier group called the U.S. Coalition for Advanced Diesel Cars. After 8 years, we re-launched last month as the Alliance for Vehicle Efficiency. Our members include most of the largest auto suppliers in the U.S. (Honeywell, BorgWarner, Bosch, and others) We moved away from the previous name to broaden our focus on all the technologies are members are developing for light duty vehicles. Our message, however, is ostensibly the same. We support technology neutral policies that accelerate the adoption of the most cost effective advanced technology applications across the light duty segment.

Over the years, we have met with Senator Inhofe and he was a strong supporter of several of our issues. I think you may have been present for one of our meetings with him or with committee staff several years ago.

In addition to the re-launch of our group, our main issues for discussion with EPA would include the Midterm Evaluation and the OEMs recent petition. We would also like to know what type of information the auto supplier community might be able to provide EPA to assist with the rulemaking.

Please let me know if you have any questions about this request and if you have any time to meet with us later next month.

Best regards,
-Lee

Lee J. Janger
Director, Legislative and Regulatory Affairs
Alliance for Vehicle Efficiency
202.607.0723
Lee@ArmitageLLC.com

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disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message.

Message

From: Neely, Andrew (Commerce) [Andrew_Neely@commerce.senate.gov]
Sent: 5/16/2017 3:56:34 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: quick question

Hey Mandy – I copied and pasted what I sent to your gmail. This work?

It was nice seeing you earlier this week. Glad to see you are enjoying the move. I had a quick question on fuel efficiency issues, specifically CA auto waiver and auto efficiency. I handle some NHTSA truck issues on my end so hoping to get a better grasp on the issue and where things currently stand. Let me know if you have a sec to chat.

Thanks,

Andrew Neely | 202-224-9046

Message

From: Jason Sloan [jsloan@csg.org]
Sent: 6/9/2017 7:54:28 PM
To: Jason Sloan [jsloan@csg.org]
Subject: Registration Open for AAPCA's 2017 Fall Business Meeting in Raleigh, North Carolina (September 20 - 22)

You can now [register](#) for the Association of Air Pollution Control Agencies' (AAPCA) 2017 Fall Business Meeting, which will be held September 20 – 22 in Raleigh, North Carolina. Registration is available through the [AAPCA website](#), and rates for the 2017 Fall Business Meeting are \$125 for members and governmental attendees, and \$350 for non-governmental attendees. You can also book your [hotel reservation](#) with the Doubletree by Hilton Hotel – Brownstone – University (1707 Hillsborough Street, Raleigh, North Carolina 27605) at a nightly rate of \$111 plus applicable taxes and fees. The hotel cut-off and registration deadline is August 31, 2017.

A tentative agenda is available on the registration page. The current schedule for Wednesday, September 20 includes an afternoon topical session focused on long-term/succession planning and an opening reception open to all attendees, as well as the AAPCA Air Directors/Board Business Session (open to Board members or their designees). Programming on Thursday, September 21 is open to all interested participants and includes breakfast and a keynote luncheon, while sessions on Friday, September 22 are limited to AAPCA members and governmental attendees.

AAPCA will provide to participants a more detailed agenda including panels, presentations, and discussion on timely Clean Air Act topics.

We're looking forward to seeing you in Raleigh – Thanks!

Jason E. Sloan
Policy and Membership Associate
Association of Air Pollution Control Agencies
1776 Avenue of the States
Lexington, KY 40511
859.244.8043 – office
jsloan@csg.org
<http://www.cleanairact.org>

Message

From: Paul Cicio [pcicio@carbonleaf.net]
Sent: 5/30/2017 4:35:27 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: SSM -- EPA/DOJ are defending the SSM position

Mandy, Heads up....We need DOJ to NOT defend the Obama SSM Exceedance Standard!

The Trump EPA in a new Supreme Court brief is defending an Obama-era policy under which the agency sets Clean Air Act limits without allowing any exceedances of those standards due to emissions spikes associated with facility malfunctions, even as the administration reconsiders a rule that barred states from granting such waivers. In a May 23 brief in *American Municipal Power (AMP), Inc. v. EPA, et al.*, the Department of Justice (DOJ) on EPA's behalf urges the high court to reject a petition by electric utility AMP for the court to hear its appeal of EPA's maximum achievable control technology (MACT) air toxics standards for boilers. AMP is using its appeal of a ruling broadly upholding the boiler standards to attack the malfunction waiver prohibition included in the MACT rule.

Paul Cicio
President
Industrial Energy Consumers of America
1776 K Street, NW, Suite 720
Washington, DC 20006
(O) 202-223-1661
(C) 703-216-7402
www.ieca-us.org

The Industrial Energy Consumers of America is a nonpartisan association of leading manufacturing companies with \$1.0 trillion in annual sales, over 2,300 facilities nationwide, and with more than 1.6 million employees worldwide. It is an organization created to promote the interests of manufacturing companies through advocacy and collaboration for which the availability, use and cost of energy, power or feedstock play a significant role in their ability to compete in domestic and world markets. IECA membership represents a diverse set of industries including: chemical, plastics, steel, iron ore, aluminum, paper, food processing, fertilizer, insulation, glass, industrial gases, pharmaceutical, building products, automotive, brewing, independent oil refining, and cement.

Message

From: John Di Stasio [John@lppc.org]
Sent: 5/31/2017 2:55:59 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Patrick Currier [currier@s2cpacific.com]; Jackson, Ryan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=38bc8e18791a47d88a279db2fec8bd60-Jackson, Ry]
Subject: Re: introduction

Mandy

It's nice to meet you too. I will get back to you shortly. Thank you for the opportunity.

John

John Di Stasio
President, Large Public Power Council
1050 Thomas Jefferson St, 5th Floor
Washington, DC 20007
202-298-3723 office
916-870-3563 cell
john@lppc.org
www.LPPC.org

On May 31, 2017, at 7:42 AM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Thank you, Patrick.

John,
Nice to e-meet you. I'm setting up a roundtable with top utility CEOs and the Administrator on June 19th from 1 to 3 pm at EPA HQ. The purpose is to discuss next steps on CPP replacement with key stakeholders. Our current list of tentative attendees is listed below. We'd love to add some of your LPPC members. Please let me know who would be a good candidate to participate and is available as soon as possible.

Also, feel free to give me a call to discuss further. 202-564-2314.

Best,
Mandy

Confirmed:
Nick Akins, AEP
Gerry Anderson, DTE
Warner Baxter, Ameren
Pat Vincent-Collawn, PNM
Chris Crane, Exelon
Leo Denault, Entergy
Tom Farrell, Dominion
Ben Fowke, Xcel

Lynn Good, Duke
Sean Trauschke, OGE

Invited:
Southern Co.
First Energy
NRECA (top 3 to 5)
Basin
TRI-State
APPA (top 3 to 5)
TVA
LGE-KU
LPPC (top 3 to 5)
Vistra - Luminant

From: Patrick Currier [<mailto:currier@s2cpacific.com>]
Sent: Wednesday, May 31, 2017 10:29 AM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>; John Di Stasio <john@lppc.org>
Subject: introduction

Mandy and John,

Wanted to connect you guys. Mandy, meet John Di Stasio, president of the Large Public Power Council and long-time friend and mentor of mine. John, meet Mandy Gunasekara, current senior policy advisor to Administrator Pruitt and all around superstar.

Best,
Patrick

Patrick T. Currier
Partner | S2C Pacific
8730 Wilshire Blvd., Ste. 350 | Beverly Hills, CA | 90211
+1.310.596.5415 | currier@s2cpacific.com
www.s2cpacific.com

Message

From: Patrick Wilson [patrick.wilson@cummins.com]
Sent: 6/1/2017 2:25:22 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Jackson, Ryan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=38bc8e18791a47d88a279db2fec8bd60-Jackson, Ry]
Subject: Question about VW Settlement

Hi Mandy

Hope you're doing well. Wondered if you might have time for a quick question about the status of the Volkswagen settlement? We're following it pretty closely and I wondered how much you're hearing from folks about the schedule and state implementation plans.

Would love to catch up!

Thanks so much,
Patrick

W. Patrick Wilson
Director, Government Relations
Cummins Inc.

601 Pennsylvania Avenue, NW
Suite 1100 N
Washington, DC 20004
O- 202-654-4280
M - 202-997-3597

Message

From: Traci Kraus [traci.kraus@cummins.com]
Sent: 5/16/2017 3:46:06 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Brian C Mormino [brian.c.mormino@cummins.com]
Subject: Thank you and follow up- Cummins

Hi Mandy,

Thanks so much for taking the time to meet with the EMA executive committee members yesterday afternoon. I know they truly appreciated it and found it to be a really useful meeting.

I believe the group spent some time talking to Ryan about potential next-tier NOx work, and had also briefed Mike Catanzaro at the NEC about the same thing. Both indicated an interest in following up with the Administrator, and I wanted to make sure you were in the loop on this as well in case it comes up.

I know you're busy, but if you had 30 minutes where I could come in and brief you (or happy to do over the phone) I think it could be really helpful. My colleague Brian (cc'd) whom you met yesterday could also join us via phone.

Let me know if you have some time and we can fill you in on the discussions.

Thanks so much!

Best,

Traci Kraus
Director, Government Relations
Cummins Inc.

601 Pennsylvania Ave. NW
Suite 1100N
Washington, DC 20004
Office: 202-654-4285
Cell: 202-302-5851

Message

From: Williams, Brendan [Brendan.Williams@pbfenergy.com]
Sent: 6/9/2017 7:36:28 PM
To: Dravis, Samantha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ece53f0610054e669d9dffe0b3a842df-Dravis, Sam]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Philadelphia Inquirer Oped re: Point of Obligation

I hope you all are doing well. I wanted to pass on this Philadelphia Inquirer oped on the RFS point of obligation:

<http://www.philly.com/philly/opinion/commentary/to-save-jobs-epa-should-reform-fuel-standard-20170609.html?mobi=true>

I hope you have a great weekend!

Regards,

Brendan Williams
Government Relations
PBF Energy
601 Pennsylvania Avenue, NW
Suite 900 South
Washington, DC 20004
O: (202) 434-8254
M: (703) 863-6825
brendan.williams@pbfenergy.com
www.pbfenergy.com



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Message

From: Patrick Currier [currier@s2cpacific.com]
Sent: 5/30/2017 4:20:24 PM
To: Fotouhi, David [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=febaf0d56aab43f8a9174b18218c1182-Fotouhi, Da]; Brown, Byron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9242d85c7df343d287659f840d730e65-Brown, Byro]
Subject: Re: Paper Recycling Coalition

Thanks, Mandy. Much appreciated.

David and Byron, as you can see from my note to Mandy, my client -- the Paper Recycling Coalition -- would like to follow up on the RCRA-related comments they submitted with an in-person meeting. Nothing immediate to schedule at the moment but once I get specific date availabilities from the CEOs, I'd like to reach out to you both to schedule a meeting, if possible.

I will be in touch in coming weeks.

Best,
Patrick

Patrick T. Currier
Partner | S2C Pacific
8730 Wilshire Blvd., Ste. 350 | Beverly Hills, CA | 90211
+1.310.596.5415 | currier@s2cpacific.com
www.s2cpacific.com

On Fri, May 26, 2017 at 2:47 PM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Hi Patrick,

Great to hear from you and happy to help. I've CC'd David Fotouhi and Byron Brown who are our points for RCRA and are much better situated to have follow up discussions.

I'll leave it to you all to figure out a time that works well to connect.

Best,
Mandy

Sent from my iPhone

On May 26, 2017, at 3:30 PM, Patrick Currier <currier@s2cpacific.com> wrote:

Hi, Mandy,

Was wondering if you can help connect me with the right folks at EPA. Our client -- the Paper Recycling Coalition -- a group of large manufacturers that produce a ton of goods out of recyclable paper materials, recently submitted comments (attached) in EPA's docket calling for examples of regulations that may warrant repeal or modification (Docket EPA-HQ-OA-2017-0190).

Our comments focus on RCRA issues, specifically the definition of municipal solid waste and solid waste. Some of the PRC member CEOs would like to discuss our comments with the right folks at EPA, either those heading up the specific docket, or those handling RCRA waste issues, or both. Thought perhaps you could help connect us with the right EPA personnel?

Many thanks,
Patrick

Patrick T. Currier
Partner | S2C Pacific
8730 Wilshire Blvd., Ste. 350 | Beverly Hills, CA | 90211
[+1.310.596.5415](tel:+13105965415) | currier@s2cpacific.com
www.s2cpacific.com

<PRC RCRA comments to EPA.pdf>

Message

From: Stephen Aaron [saaron@mercuryllc.com]
Sent: 5/12/2017 3:12:06 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: Strange Sequence of Events

Mandy,

The one thing I forgot to mention on the phone yesterday is that an immediate pause on our consent decree is still our absolute, foremost request as Cabot is within months of having to begin engineering and design on their biggest facility to be able to meet their consent decree timeline. If there is not a pause in the consent decree, Cabot is going to have to make hard decisions about that plant.

Thanks and see you Monday.

.....
Mercury.

Stephen Aaron
Senior Vice President
300 Tingey Street SE | Suite 202
Washington, DC | 20003
www.mercuryllc.com

On May 11, 2017, at 8:50 AM, Stephen Aaron <saaron@mercuryllc.com> wrote:

Will do. Thanks Mandy.

On May 10, 2017, at 10:25 PM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Hey Stephen,
Sorry for delayed response. Give me a call tomorrow at 9:30 am. My direct is 202-564-2314.

Best,
Mandy

Sent from my iPhone

On May 10, 2017, at 3:11 PM, Stephen Aaron <saaron@mercuryllc.com> wrote:

Mandy, just wanted to check back in with you and see if you had a couple quick minutes for us to talk prior to Monday.

Didn't see you last night at the party??

Talk soon.

.....
Stephen Aaron
Senior Vice President
300 Tingey Street SE | Suite 202
Washington, DC | 20003
www.mercuryllc.com

> On May 8, 2017, at 4:45 PM, Stephen Aaron
> <saaron@mercuryllc.com> wrote:
>
> <Scott Pruitt Letter.pdf>
> <John D Dunlap Bio.docx>

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Message

From: Johnson, Kirk D. [kirk.johnson@nreca.coop]
Sent: 5/22/2017 4:14:32 PM
To: Jackson, Ryan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=38bc8e18791a47d88a279db2fec8bd60-Jackson, Ry]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Morrison, Jay A. [jay.morrison@nreca.coop]; Cassady, John M. [John.Cassady@nreca.coop]; Cromwell, Ted T. [ted.cromwell@nreca.coop]
Subject: Responses to Administrator Pruitt's questions
Attachments: Final Pruitt Letter.pdf; NRECA Comments Identifying Burden Reduction Opportunities under E.O. 137....pdf

Dear Ryan and Mandy –

When we met with Administrator Pruitt earlier this month, he asked about specifics on CPP lost investment, Regional Haze specifics, and NRS ideas. The attached letter from our CEO to the administrator covers those issues and we would be happy to discuss further should you or others at EPA want to dig deeper.

Thanks so much for reaching out to us!

-K

Kirk Johnson

Senior Vice President, Government Relations

703-907-5775 (office) | 703-887-0706 (mobile) | kirk.johnson@nreca.coop

Assistant: Erin Steverson | 703-907-5854 | erin.steverson@nreca.coop



NRECA Mission: To Promote, Support, and Protect the Community and Business Interests of Electric Cooperatives.

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May 19, 2017

The Honorable Scott Pruitt
 Administrator
 Environmental Protection Agency
 1200 Pennsylvania Avenue, N.W.
 Washington, DC 20460

Dear Administrator Pruitt,

The National Rural Electric Cooperative Association appreciated the opportunity to have representatives of our Generating and Transmission Leadership group meet with you recently to discuss several high priority environmental issues.

As a follow up to our conversation, you had asked us to provide additional feedback on several topics, including: 1) economic impacts of the Clean Power Plan on the cooperatives' coal-based units, 2) our suggestions on how to improve the New Source Review program, and 3) recommendations for addressing the impacts of Regional Haze requirements on cooperatives. These topics are addressed in this letter. I've also attached a copy of NRECA's comments to EPA regarding your request for input under President Trump's Executive Order 13777.¹

CLEAN POWER PLAN VALUE OF LOST CAPITAL RESULTING FROM PROJECTED ELECTRIC COOPERATIVE COAL PLANT RETIREMENTS

According to the EPA's IPM modeling of the Clean Power Plan Base Case and its Rate Case (embodied in EPA's modeling for the proposed Cross-State Air Pollution Rule Update), 4,862 MW of capacity at coal plants owned by electric cooperatives is projected to be retired by 2018. For reliability purposes, cooperatives would need to replace this capacity by either building or purchasing new capacity. The market value of this replacement capacity can be estimated based on projected regional electric generating capacity values. These values represent capacity market prices for regions with organized markets or, for other regions, the incremental revenue above energy margins that would be necessary for a new asset owner to enter the market. By multiplying projected annual \$/kW regional capacity values, developed by IHS CERA, with the lost co-op capacity in each region, NRECA estimates the total

¹ NRECA Comments submitted May 15, 2017 to EPA Docket: EPA-HQ-QA-2017-0190: Identification of Regulations for Repeal, Modification or Replacement Under Executive Order 13777

NRECA Letter to Administrator Pruitt

market cost for replacing the 4,862 MW of lost coal capacity to be approximately \$3.4 billion over the 2018-2030 period.

REGIONAL HAZE IMPACTS FOR COOPERATIVES ARE SIGNIFICANT

In recent years, EPA has become much more prescriptive by forcing states to impose high cost, low benefit pollution controls to drive the Regional Haze program towards a goal that is still 48 years away. Regardless of the states' extensive analysis and recommendations for their implementation plans, EPA has instead largely rejected the state recommended approaches and imposed the Federal preference for selective catalytic reduction technology to be installed at electric generating units to control NOx emissions. This technology can cost hundreds of millions of dollars per unit while the projected visibility improvements offered by the technology are often imperceptible as compared to what the states' lower cost recommendations would achieve.

In planning for Phase II of Regional Haze, EPA "doubled down" in 2017 by finalizing its regulation and accompanying guidance in ways that further erode state authority over their own programs. We urge EPA to redraft both the rule and guidance as the law intended, place the decision making back in the hands of the states, and allow them the time and discretion to manage their programs cost effectively.

In numerous examples of national rulemaking as well as individual states where EPA has imposed Federal Implementation Plans in lieu of the preferred state approach, NRECA supports the current Administration's decision to hold the litigations in abeyance and reevaluate its approach. Cooperatives face significant compliance burdens unless EPA makes needed changes. These include:

- EPA's Regional Haze rule for Texas and Oklahoma (State of Texas v. EPA, No. 16-60118). Not only does that rule exceed EPA's authority in those two states, but EPA's policy decisions in this rule established precedent that was used when EPA updated the nationwide Regional Haze rules and guidance that were issued in 2017. At a minimum, EPA needs to: 1) revise and decouple the Reasonable Progress Goals from the Long Term Strategy, 2) modify the guidance for interstate consultation requirements for state visibility plans, and 3) revise the rule to again allow states to rely on regional planning organization modeling and documentation.
- EPA's pursuit of a 90-Day Administrative Stay of Certain provisions of the Arkansas Regional Haze FIP. This is of particular concern to Arkansas Electric Cooperative and some distribution cooperatives in Arkansas and Texas where EPA justifies its imposition of high-priced control technologies on a \$/ton basis even though it provides minimal visibility improvement – in this case not even perceptible to the human eye.
- In the litigation over EPA's January 2017 final Visibility Rule Revisions and Guidance, multiple parties are developing consolidated briefs. We do support EPA's recommendation to extend the Phase II planning by 3 years and we believe EPA should equally extend the compliance deadline. We have significant concern in this rulemaking with the same issues raised in the State of Texas case (above) as well as: 1) adding to state planning burdens by inserting consultation

NRECA Letter to Administrator Pruitt

requirements with Federal Land Manager both before and after public hearings and 2) imposing on states in Phase II to require the most stringent controls for electric generating units that weren't required to adopt them in Phase I.

- In Utah vs. EPA, the litigation focuses on the agency again rejecting the state's plan and promulgating a plan requiring SCR technology even though analysis conclusively demonstrates that EPA's approach would achieve, at most, a 0.1 deciview improvement compared to the state's approach. Yet EPA's approach would increase costs by several hundred million dollars. If implemented, EPA's approach will have dire consequences for the local cooperative whose portion of capital cost (\$45-50 million) would exceed their current financing capacity prior to 2025. The FIP deadline for full implementation is mid-year 2021. In Utah, EPA followed the rationale adopted in their policy decisions now under review in the Texas case (discussed above). In fact, EPA under the outgoing administration apparently wholesale discontinued traditional economic evaluations based on a \$/ton removal or \$/per deciview. Instead, EPA asserted it only determined "affordability" based on whether they believed the cost could be absorbed and the utilities remain in business. For the cooperative, the potential to be mandated to make this size of investment could threaten their viability as it would create severe stress to cash flows currently earmarked to sustain debt service payments on their restructured debt. Time is of the essence for EPA to reevaluate their approach and let the more cost-effective state SIP be adopted.
- In Wyoming, we support the Administrations' recent decision to back the mediated agreement reached for the Laramie River Station. We are asking that the consolidated litigation be put in abeyance until EPA finalizes all of these actions.

EPA SHOULD REMOVE NEW SOURCE REVIEW PROGRAM ELEMENTS THAT IMPEDE ELECTRIC GENERATING UNIT (EGU) EFFICIENCY IMPROVEMENTS

EPA may propose standards of performance for EGUs that require evaluation of unit-based heat-rate efficiency measures under revisions to the Clean Power Plan regulations. NRECA has previously filed comments and made suggestions relating to an inadvertent triggering of NSR requirements when undertaking many efficiency measures or improvements. There are numerous examples of EGUs identifying projects that could improve unit efficiency, yet these projects would almost certainly trigger NSR concerns as the program is currently implemented. This means that these projects cannot be pursued.

In 2005, EPA proposed to remedy some of the NSR program difficulties, but that effort was never finished and published as a final rule. NRECA believes that rulemaking held promise and we recommend EPA revisit their 2005 NSR reform proposal as a starting point for making much needed changes to this program.

NRECA Letter to Administrator Pruitt

At a minimum, EPA needs to change the NSR rules to provide substantial certainty that efficiency improvement projects do not trigger a NSR review and do not create a reasonable apprehension of NSR review.

CONCLUSION

Thank you again for the opportunity to meet with you and to provide the electric cooperatives' perspectives on these important issues. Please contact me with any questions or clarification.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jim Matheson", with a stylized, flowing script.

Jim Matheson
CEO, NRECA



May 15, 2017

Via Email

Samantha Dravis
 Senior Counsel and Associate Administrator for Policy
 Regulatory Reform Officer for Executive Order 13777
 United States Environmental Protection Agency
 1200 Pennsylvania Avenue, N.W.
 Washington, D.C. 20460-0001

Re: Identification of Regulations for Repeal, Modification or Replacement Under Executive Order 13777
 - Docket No. EPA-HQ-OA-2017-0190

Dear Ms. Dravis:

The National Rural Electric Cooperative Association (NRECA) submits these comments in response to EPA's request for input on regulations that may be appropriate for repeal, replacement, or modification under Executive Order 13777, "Enforcing the Regulatory Reform Agenda." EO 13777 furthers the policy goal of alleviating unnecessary regulatory burdens on the American people by directing the heads of federal agencies to establish Regulatory Reform Task Forces (RRTF) which, among other duties, is directed to seek input from entities significantly affected by Federal regulations including, among others, trade associations. NRECA appreciates the opportunity to recommend burden reduction candidates and incorporates by reference comments submitted by the Utility Air Regulatory Group (UARG), the Utility Solid Waste Activities Group (USWAG), and the Utility Water Act Group (UWAG).

NRECA is the national service organization for more than 900 not-for-profit rural electric cooperatives chartered to provide affordable, reliable electricity to approximately 42 million people in 80 percent of U.S. counties. Rural electric cooperatives are small businesses, most of which serve member-owners, especially those in rural areas, facing significant economic challenges.

Electric cooperatives and our member-owners value, and deserve, a healthy environment and cooperatives are proud of their environmental compliance. Nonetheless, the economic challenges faced by so many cooperatives and their member-owners underscore the importance of ensuring that these regulations are cost-effective.

NRECA appreciates the efforts already announced to reconsider several regulations of utmost concern to our members, specifically:

- The Clean Power Plan (80 Fed. Reg. 64661, October 23, 2015) to be reviewed per Executive Order 13783 (82 Fed. Reg. 16093, March 31, 2017);
- The Clean Water Rule, also known as the "Waters of the US" rule (80 Fed. Reg. 37054, June 29, 2015) to be reviewed per Executive Order 13778 (82 Fed. Reg. 12497); and
- The Steam Electric Effluent Limitation Guidelines rule (80 Fed. Reg. 67838, November 3, 2015) per EPA's notification and postponement of compliance dates (82 Fed. Reg. 19005, April 25, 2017).

Each of these rules has significant substantive and procedural deficiencies as discussed below and in the comments submitted by UARG regarding the Clean Power Plan and UWAG concerning the WOTUS and ELG rules. We look forward to working with EPA on these issues.

We also urge EPA to act quickly on USWAG's petition for reconsideration of the Coal Combustion Residuals (CCR) rule (80 Fed. Reg. 21302, April 17, 2015) submitted May 12, 2017. As discussed below and in the comments submitted by USWAG, the Water Infrastructure Improvement for America (WIIN) Act (P.L. 114-322, December 16, 2016), provides EPA with the authority, previously lacking, to implement and enforce the federal CCR criteria through state or federal permits and to incorporate risk-based approaches to achieving the protectiveness embodied in the CCR rule.

Air Issues:

1. EPA should remove New Source Review program elements that impede electric generating unit (EGU) efficiency improvements.

EPA may propose that EGUs to make heat-rate improvements or efficiency-based modifications to existing EGUs under revisions to the Clean Power Plan regulations. NRECA has previously filed comments and made suggestions relating to an inadvertent triggering of NSR requirements when undertaking many efficiency improvements. There are numerous examples of EGUs identifying numerous projects that could improve unit efficiency by greater than 5%, yet these projects would almost certainly trigger NSR concerns as the program is currently implemented. This means that these projects likely won't be pursued.

In 2005, EPA proposed to remedy some of the NSR program difficulties, but that effort was never finished and published as a final rule. EPA should revisit their 2005 NSR reform proposal as a starting point for making much needed changes to this program.

EPA needs to change the NSR rule to provide substantial certainty that efficiency improvement projects don't trigger a NSR review or do not create a reasonable apprehension of NSR review.

2. EPA should re-evaluate their compliance testing requirements under the MATS program.

MATS compliance testing is very expensive and in many circumstances testing results indicate that when HAP emissions exist, they are below the test method detection level. Compliance testing should not be punitive, nor should sources be discouraged from seeking testing waivers in situations where EPA has otherwise provided for them through guidance.

A single battery of stack tests for MATS acid gas and particulate matter (PM) compliance can cost over \$25,000 per calendar quarter, or \$100,000 per year. "Low-emitter status" determination requires three years of quarterly stack testing, or a total of 36 individual data points at a cost of about \$300,000. Once successfully completed, the low-emitter status still requires a stack test frequency every third year. The on-going testing and monitoring is excessive, burdensome and in some cases duplicative and provide little benefit. The following is suggested:

- Some EGUs are inherently low-emitters given installed control technology and/or fuel choice.

- EGUs that use Powder River Basin (PRB) coal have relevant information that fuel chloride concentration is frequently below 10 ppm. Ash from PRB fuel is highly alkaline and adsorbs the chlorine gases that would otherwise be emitted. HCl concentration at the boiler outlet, before any pollution control technology, is already at or below test method detection levels.
- Pre-status determination of nine tests, including the initial performance test, can provide statistically relevant indications of performance levels at relatively high confidence intervals.

Once the low-emitter status is confirmed a stack test of once in 3 years, as currently provided in MATS, should continue to be adequate.

Current EPA Clean Air Act National Stack Testing Guidance provides for certain testing waivers, including a relaxation of testing frequency, when multiple units at the same location have similar design and when they have exhibited similar traits relating to verified emissions. It seems reasonable that such guidance can be extended to coal-based EGUs when the same principles are applied.

The source should provide sufficient emissions data that, though the margin of compliance is not substantial, allow for a determination that the variability of emissions is low enough for confidence that the unit is in compliance. The national guidance provides three relevant factors for evaluating whether a waiver of testing may be appropriate.

The guidance further identifies that if a facility does not have the ability to emit a pollutant in excess of the prescribed emissions limit that a waiver may be granted on a case-by-case basis. Finally, EPA should provide that an EGU undergoing maintenance (not an NSR major modification), upon submitting a reasonable request for an extension of time to perform a required periodic compliance test, be granted an extension, not to exceed 720 hours, to conduct such testing if the scheduled restart of such EGU does not provide for a 720-hour shakedown period prior to the end of the calendar quarter. This experience does not arise from a force majeure; not unlike and initial startup compliance with the requirements may be a reflection following major maintenance on systems that will likely require several days of shakedown.

EPA can maintain the stringency of MATS while also significantly reducing the compliance burden of the rule, by making these recommended changes.

3. EPA should revise their SIP-call to the states relating to the treatment of startup, shutdown, and malfunction (SSM) in utility operations.

Coal-fired EGUs are very large facilities with many complex and interconnected systems and components that generate electricity while maintaining compliance with both their environmental and power system regulations. Generally, pollution control technology performance cannot be optimized with changing operating levels or at levels of operation significantly below that designed for maximum pollution control technology performance.

Many coal-fired EGUs now operate at lower loads and at varying loads to accommodate the growth of renewable energy sources. Sudden changes in operating levels that are forced upon a particular facility by electric grid operation can and do significantly affect pollution control performance. Challenges to emission control performance are sometimes unavoidable and are always highest

during periods classified as startup, shutdown, and malfunction.

A well-reasoned SSM program should consider whether an SSM event actually causes or contributes to any significant impacts on ambient air quality or ambient standards non-attainment. The growing nationwide attainment or maintenance of attainment with ever-tightening NAAQS suggests that existing SSM allowances in permits should be retained as they are not triggering adverse air quality issues. In fact any emission upsets have been calculated into 'normal' operation allowable emission rates in permits and AP-42 factors. With its current policy EPA has over-reached in the conclusions that some state programs are ineffectively managing their sources in situations involving SSM.

Accordingly EPA should withdraw its SSM SIP call and instead encourage state agencies to work with their sources to critically evaluate the implications of specific SSM events that can or may have previously occurred at a particular facility before establishing whether any new event of the same type is worthy of any action at all.

4. NAAQS attainment should be based on air quality monitoring and not modeling estimates.

EPA made a significant change when they decided to use computer modeling rather than actual air quality monitoring data to make 'non-attainment' determinations for the Sulfur Dioxide NAAQS. Any number of variables used in the model can have a significant impact on these determinations. This can then be compounded by EPA establishing non-attainment based on exaggerated modeled information and then applying "potential to emit" models to drive permitted emission limits well below what is needed to achieve attainment. This approach causes significant cost to economic development and can even prohibit business development in these areas. This can be easily remedied by EPA using actual monitored emissions data to establish nonattainment designations.

5. Return primacy for the Regional Haze program to the states.

Congress established Clean Air Act authority for EPA to set best available retrofit technology requirements with the goal of achieving natural visibility conditions in areas like National Parks and Wilderness areas by 2064. But Congress gave the *states* the primary role to determine where these determinations apply using a four part test as well as determining their 'glide-path'. Compliance with Phase I of this program will largely be achieved by 2018.

In recent years, EPA has become much more prescriptive in forcing states to implement the program exactly as EPA wishes, or else EPA rejects the state program and issues a Federal plan. For Phase II of the program, EPA appears to be doubling down on this approach with even greater prescriptiveness in their recent guidance and rulemaking. This will force states to impose high cost, low benefit pollution controls to drive a standard based on aesthetics rather than human health and the environment. EPA has largely demanded that states impose selective catalytic reduction technology on all utility units to control NOx emissions. This technology can cost hundreds of millions per unit for purported visibility improvements that are difficult to perceive. EPA also requires use of their outdated models which historically have over-estimated visibility impacts.

EPA should revise their recent guidance and rulemaking to put the decision making back in the hands of the states and to allow them the time and discretion to cost-effectively manage their

program towards a goal that is still 48 years away. A good first step would be to extend the 2018-2028 planning and compliance cycle by at least 3 years, to give states and the regulated community added time to meet the next round of limits.

Specific to the Federal Implementation Plan(FIP) for Arkansas, EPA, by a Federal Register notice dated April 25, 2017, 82 Fed Reg. 18994, announced a 90 day stay of the rule and the convening of a proceeding for reconsideration of certain requirements contained in the final FIP rule published in the Federal Register on September 27, 2016.

EPA should evaluate the Arkansas FIP requirements for coal-fired EGUs referenced in the federal register notice and amend the requirements to reflect timing of controls, costs of controls, and overall impact on visibility improvement.

In Utah, the Regional Haze litigation focuses on the agency again rejecting the state's plan and promulgating SCR technology to be implemented by 2021 even though analysis conclusively demonstrates that EPA's approach would achieve, at most, a 0.1 deciview improvement compared to the state's approach. Yet EPA's approach would increase costs by several hundred million dollars. If implemented, EPA's approach will have dire consequences for the local cooperative whose portion of capital cost (\$45-50 million) would exceed their current financing capacity prior to 2025. Time is of the essence for EPA to reevaluate their approach and let the more cost-effective state SIP be adopted.

6. EPA should finalize proposed revisions to 40 CFR Part 60 App. F Procedure 2, section 10.4

On November 21, 2016 EPA issued a direct final rule (81 Fed. Reg. 83160) and an alternative proposed rule (81 Fed Reg. 83189) addressing quality assurance requirements for particulate matter (PM) continuous monitoring to demonstrate Clean Air Act NSPS compliance. These actions were necessary to correctly account for the installation of additional PM control devices and their effect on compliance with annual quality assurance/quality control criteria.

Due to comment on the direct final rule the rule had to be withdrawn as required by legal procedure. EPA should complete the rulemaking process on the proposed rule by addressing any concerns with it and an issue final rule revising section 10.4 referenced above for reasons heretofore stated.

Waste Issues:

1. Revise the Coal Combustion Residuals, or "CCR," rule to reflect the permitting and risk-based opportunities provided by the Water Infrastructure Improvement for the Nation (WIIN) Act – 40 CFR 257 & 261 (80 Fed. Reg. 21302, April 17, 2015).

In the absence of clear RCRA authority, the CCR rule promulgated in 2015 established self-implementing one-size-fits-all federal standards for coal ash and air pollution control scrubber sludge; standards that can only be enforced through citizen suits.

The WIIN Act, signed into law last December, gives EPA new authority to implement the federal requirements through state permitting programs – the mechanism used to implement the current Municipal Solid Waste Landfill (MSWLF) requirements upon which the CCR criteria are based and even the federal *hazardous* waste rules. Most importantly, it allows those permits to reflect site-specific conditions and risks so long as the conditions in the permit are “as protective” as the federal criteria. The new law also allows EPA to establish a federal CCR permitting program for those states that do not adopt their own programs.

This new WIIN authority removes EPA’s rationale for the current self-implementing approach as well as the Agency’s justification for one-size-fits-all standards. EPA will be revisiting parts of the CCR rule under a settlement agreement which provides the perfect opportunity to reflect the new WIIN authority and incorporate site-specific, risk-based approaches into the federal standards.

Regulating CCR units under a state or federal permit that reflect site specific conditions and risks will significantly reduce the burden of complying with the CCR rule. In addition, implementing the requirement through permits will remove the burden of bringing, defending against, and adjudicating citizen suit – a burden reduction for everyone.

NRECA is a member of USWAG and wholeheartedly endorses the petition for reconsideration of the CCR rule submitted May 12, 2017, and to extend the upcoming CCR rule compliance deadlines. Owners and operators of CCR units are or will shortly be confronted with significant and irrevocable decisions or financial commitments to comply with the CCR rule – decisions or commitments that may be unneeded, inappropriate, or insufficient if the rule is modified. In addition, the CCR and ELG rules (see below) must work together and be implemented together. EPA has already stayed the ELG requirements while considering a petition submitted by UWAG. To make sure the two programs work together, compliance dates in the CCR rule should also be stayed.

2. Revise the PCB regulations to allow disposal of all wastes with PCB contamination of less-than 50 parts-per-million in modern, engineered landfills such as municipal solid waste landfills and other non-TSCA units.

EPA has determined that disposal of remediation wastes containing PCBs at less than 50 parts-per-million (<50 ppm) can be protectively managed in modern, engineered landfills such as municipal solid waste landfills (MSWLF) and other non-TSCA units. In fact, the PCB regulations already allow disposal of *most* < 50 ppm PCB-contaminated waste in non-TSCA facilities (See 68 Fed. Reg. 4934, January 31, 2003 acknowledging that < 50 ppm PCB remediation waste” has little inherent potential to pose an unreasonable risk to health or the environment.”), but not all as-found remediation waste. EPA has issued approvals for NRECA and USWAG members to dispose of as-found < 50 ppm remediation wastes subject to conditions of the approval, including reporting to EPA, the state, and local authorities each time soil is disposed of under the approval. (Approval available online at <https://www.epa.gov/pcbs/nationwide-risk-based-pcb-remediation-waste-disposal-approvals-under-title-40-code-federal#nreca>, current as of May 15, 2017.)

While NRECA’s members very much appreciate the approvals, we recommend that the PCB disposal regulations themselves be amended to reflect EPA’s protectiveness determination and acknowledgement that PCB cleanup should be driven by the as-found concentration of PCBs (See 40

CFR 761.50(b)(3), “PCB remediation waste ... is regulated for cleanup and disposal in accordance with 761.61” and 761.61 “Any person cleaning up and disposing of PCBs under this section shall do so based on the concentration at which PCBs are found.”). EPA should allow *all* low-level (<50 ppm) PCB wastes to be managed in modern, engineered landfills such as MSWLF. We believe this change will encourage and significantly reduce the costs and regulatory burden of cleaning up low-level PCB contamination wherever it may be found.

3. Issue a Letter of Interpretation confirming that refined coal and boiler cleaning wastes do not trigger regulation of utility steam generation boilers as commercial and industrial solid waste incinerators (CISWI) – 40 CFR 60 and 241 (78 Fed. Reg. 9112, February 7, 2013).

The commercial and industrial solid waste incineration (CISWI) rule established standards for units that “combust” solid waste. In comments on the proposed rule, the Utility Solid Waste Activities Group (USWAG) raised concern over potential application of the rule to boiler cleaning wastes and refined coal. The concerns were not resolved in the final rule or response to comments, and USWAG subsequently, on November 4, 2013, USWAG asked EPA to confirm that the introduction of refined coal and boiler cleaning waste into a utility boiler will *not* subject the unit to CISWI.

In the course of operations, boiler cleaning wastes and refined coal may be introduced into a utility boiler as a practical way to manage materials without increasing emissions and even to reduce the emissions of certain contaminants. As explained in both the USWAG comments and the 2013 request, these materials are not combusted when introduced into utility boilers because these materials have no heating value are, therefore, not combusted. Consequently, they should not trigger the CISWI requirements.

Since submitting the initial request for clarification, USWAG staff has provided additional justification for the request and has responded to additional questions from EPA’s Office of Resource Conservation and Recovery (ORCR) staff, and have every reason to believe that the Agency is well underway toward issuing such a confirmation.

Water Issues:

1. Review and reconsider the Steam Electric Effluent Limitation Guidelines (ELG) rule with respect to the identification of best available treatment technology and the quality and public availability of information and data supporting the rule – 40 CFR 423 (80 Fed. Reg. 67838, November 3, 2015).

The Steam Electric Effluent Limitation Guideline (ELG) rule prohibits discharge of waters used to transport coal ash and imposes unachievable standards for discharge of wastewaters from air pollution control systems (e.g. scrubbers). The rule is ripe for revision based on substantive and procedural deficiencies.

- EPA significantly underestimated the costs of compliance and the actual availability of technologies undergirding the rule.
- The rule will require many plants to redesign their ash and wastewater management systems at tremendous cost, yet with no assurance the technology EPA relied on will actually work.

- EPA grossly over-classified information, methods, and analyses as confidential business information (CBI) in violation of the Data Quality Act and its own guidelines on transparency and reproducibility.

Plants that can't retrofit their systems or can't meet the limits could be forced to close. NRECA urges EPA to revisit the best available technology (BAT) limits for flue gas desulfurization (FGD) wastewater and bottom ash transport water (BATW).

NRECA greatly appreciates that EPA has announced that it is considering petitions for reconsideration submitted by the Utility Water Act Group (UWAG) and the Small Business Administration Office of Advocacy. The recent administrative stay of the effective dates of the ELG rule is testament to the seriousness with which the Agency is considering the petitions. This stay is especially important for facilities that otherwise would have been forced to make imminent, significant, and irreversible capital investment within the next few months to meet the rule's aggressive implementation deadline.


2. Withdraw and re-propose the Waters of the United States (WOTUS) rule – 33 CFR 328 (80 Fed. Reg. 37054, June 29, 2015).

The final WOTUS rule expanded Clean Water Act jurisdiction in a manner that affects electric cooperatives by delaying and increasing the costs for constructing new and maintaining existing power lines and by potentially increasing the costs to site, operate, and eventually decommission new and existing electrical generation facilities.

We appreciate and support Executive Order 13778, "Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the 'Waters of the United States' Rule" and look forward to working with EPA and the US Army Corps of Engineers in its implementation.

NRECA appreciates this opportunity to provide our initial recommendations for opportunities to reduce regulatory burden from certain regulations while protecting our environment. We particularly compliment EPA for the very public approach to soliciting burden reduction suggestions. We look forward to working with EPA and other stakeholders in implementing Executive Orders 13771 and 13777.

Respectfully submitted,



Dorothy Allen Kellogg
Sr. Principal – Environment Policy

CC: K. Bromberg, SBA Office of Advocacy

Message

From: Nextgov [hello@e.nextgov.com]
Sent: 5/18/2017 6:45:04 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: House Passes IT Modernization Bill

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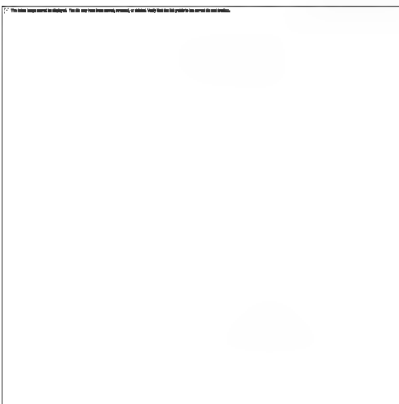
—
Dear Amanda,

As an individual who works in government technology, we'd like to tell you more about our public sector technology publication, [Nextgov](#). Nextgov is the leading federal technology website, and a meeting place for government and industry managers to read the latest news and discussions and share insights on deploying IT successfully to achieve agency missions.

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Message

From: Manley, Bret [BManley@aar.org]
Sent: 5/18/2017 2:07:42 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: Follow Up from Meeting with Samantha Dravis

Hi Mandy,

Touching base to see if you got my previous email and had any questions.

Another issue we are concerned with is EPA proposing to further limit facilities ability to burn railroad ties on account of the presence of creosote. Not sure if you have any visibility in to that.

Bret

Bret Manley
Association of American Railroads

From: Manley, Bret
Sent: Tuesday, May 9, 2017 1:10:53 PM
To: Mandy Gunasekara (Gunasekara.mandy@epa.gov)
Subject: Follow Up from Meeting with Samantha Dravis

Hi Mandy,

It was nice seeing you today. Not sure if you remember me but we've met a couple of times, **Personal Matters / Ex. 6**
Congratulations on your new job at EPA, **Personal Matters / Ex. 6**

Not sure if you were pumped or not about Samantha offering you up on this but wanted to attach the Federal Register notice to deny and AAR's comments to that notice for your information. We are very much focused on ensuring the Point of Obligation does not change to the end user as this would have a significant impact on the railroads not to mention we don't have the capacity to comply since we do not engage in the blending and refining of fuel.

I know you have many things going on and are still waiting for all your re-enforcements but if it's helpful I'd like to come by in the next few weeks to discuss in further detail.

Hope things are going well.

Best,

Bret

Bret Manley
AVP – Government Affairs
Association of American Railroads
Office: 202-639-2538
Cell: 510-541-0384

Message

From: Chuck Cunningham [chuckc@visi.net]
Sent: 5/25/2017 6:00:16 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: CAFE Standards

Mandy:

Hopefully, the information that I provided last week was helpful. Since I have met Samantha, could you introduce/connect me with Brittany Bolen?

Chuck

Charles H. Cunningham
ChuckC@visi.net
Senior Vice President for Government Relations and External Affairs
Securing America's Future Energy (SAFE)
1111 Nineteenth Street, N.W., Suite 406
Washington, D.C. 20036-3627
(202) 461-2369
(202) 461-2379 (FAX)

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Thursday, May 18, 2017 9:58 AM
To: Gunasekara, Surya
Cc: Chuck Cunningham
Subject: Re: CAFE Standards

Thanks, Surya.

Chuck, our Policy Office (Samantha Dravis, Brittany Bolen) have taken the lead on Cafe issues. I'm happy to connect but can you provide a bit more specificity?

Thanks,
Mandy

Sent from my iPhone

On May 18, 2017, at 9:19 AM, Gunasekara, Surya <Surya@mail.house.gov> wrote:

Hey Chuck,

Good seeing you last night.

As promised, I have connected you with my wife Mandy. She can direct you to the appropriate contact depending on your specific requests.

Surya

Surya G. Gunasekara
Chief of Staff
Congressman Jim Renacci (16th-OH)
328 Cannon House Office Building
Washington, DC 20515
O: (202) 225-3876
F: (202) 225-3059



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Message

From: Mark Ranalli, Allegiance Energy Systems, LLC. [MARanalli@AllegianceEnergy.com]
Sent: 5/10/2017 7:13:40 PM
To: gvsdoug@gmail.com; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Dunham, Sarah [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a9444681441e4521ad92ae7d42919223-SDUNHAM]; Harvey, Reid [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f8ec31caad5048db83f210032847de32-RHARVE02]
CC: Bianco, Karen [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=af90b07531b04472bffff51c1db461e3-Bennett, Karen]; Hupp, Sydney [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d50089ff1a5b4c83baa0160afe2c33cb-Hupp, Sydne]; Atkinson, Emily [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=bb2155adef6a44aea9410741f0c01d27-Atkinson, Emily]; 'Steve Sexton' [stevesexton@vocgen.com]; 'Mark Vermeer' [markvermeer@vocgen.com]; kevin_holmquist@keybank.com; tom@dadeyinsurance.com
Subject: Follow-up from EPSI-VOCGEN Discussion Meeting of Wednesday 4/26 at 12:30pm EST

To:
 Mandy Gunasekara – Senior Policy Advisor; Gunasekara.Mandy@epa.gov
 Sarah Dunham – Acting Assistant Administrator of EPA's Office of Air and Radiation;
Dunham.Sarah@epa.gov
 Reid Harvey – Director, Clean Air Markets Division, Harvey.Reid@epa.gov

Scott Pruitt, Administrator
 US Environmental Protection Agency

Re:
 Wednesday, April 26, 2017 External Meeting
 Request for Discussion Between Scott Pruitt and Steve Sexton
 Proposal for Operating Permit Program for Vocgen

Dear US EPA Representatives:

Pursuant to our meeting on April 26, 2017 and on behalf of Steve Sexton and Environment and Power Systems International, LLC, we trust that you have found the Vocgen solution for industry including its business and market strategies to be closely aligned with the Administration's environmental and economic growth policies.

Kindly be advised that our April 27, 2017 External Meeting follow-up email was copied to Mr. Tom Dadey to assist him in the delivery of the Vocgen Plan to other chief policy advisors to the President.

It is again our sincere hope that Vocgen can help the Administration to advance an environmentally friendly and energy efficient economy.

Mr. Sexton is available to speak with Mr. Pruitt at the Administrator's convenience.

Lastly, unless you have any objection or reservation, Steve would like to contact as well the EPA Energy Star staff Walt Tunnessen and Elisabeth Dutrow, that EPSI can then begin dialogs with industry organizations.

Thank you again.

Best Regards

Doug and Mark

Doug R. Jarvis - President Green Visions Solar, and Co-Founder EPSI-VOCGEN New York, 315-415-5813

Mark A. Ranalli – Principal Allegiance Energy Systems, and Co-Founder EPSI-VOCGEN New York, 315-373-5055

cc:

Steven E. Sexton, President, CEO and Managing Director, Environment and Power Systems International;
stevesexton@vocgen.com

Mark E. Vermeer, PE, MBA, Director of Operations Environment and Power Systems International;
markvermeer@vocgen.com

Kevin A. Holmquist, Onondaga County Legislature Member, Manager Key Bank – Manlius;
kevin_holmquist@keybank.com

Tom V. Dadey, Onondaga County GOP Chairman, Member Executive Committee of the President Trump Transition Team, President Dadey Insurance Agency; tom@dadeyinsurance.com

Karen Bianco, Office of General Counsel at US EPA; Bianco.Karen@epa.gov

Sydney Hupp, Office of the Administrator- Scheduling; hupp.sydney@epa.gov

Emily Atkinson, Management Analyst/Office Manager, Immediate Office of the Acting Assistant Administrator, Office of Air and Radiation, USEPA; Atkinson.Emily@epa.gov

Main Web Site: vocgen.com

Market/Sales Site: Environmental.XPRT (*product information and publications*)

Partners: <http://www.vocgen.com/partners.html>

CV/Resume: <https://www.visualcv.com/steven-sexton>

[Vocgen National Plan Download](#)

LinkedIn Groups Managed by SE Sexton

The VOCGEN Energy Group - <https://www.linkedin.com/groups/2740286>

Oro Valley Energy Venture Group - <https://www.linkedin.com/groups/6563219>

LinkedIn Pulse - Posts By SE Sexton

1. [Advancing Environmental Health](#)
2. [Advancing Industrial Energy Efficiency Programs](#)
3. [Advancing Clean Power Plan Objectives](#)
4. [Manufacturing Sector Business Growth Intelligence](#)
5. [Advancing a Clean Power Economy](#)

Message

From: Geoffrey Moody [GMoody@afpm.org]
Sent: 5/16/2017 9:30:20 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Time to talk?

Absolutely—I'll be at an event but can step out. My cell is Personal Phone / Ex. 6

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Tuesday, May 16, 2017 5:29 PM
To: Geoffrey Moody <GMoody@afpm.org>
Subject: RE: Time to talk?

Not right now – headed to meeting that will last to 7. Can I call you after 7?

From: Geoffrey Moody [mailto:GMoody@afpm.org]
Sent: Tuesday, May 16, 2017 5:23 PM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Time to talk?

Mandy, do you have a few minutes to jump on a call sometime in the next hour?

Geoff Moody
Vice President
Government Relations

American
Fuel & Petrochemical
Manufacturers
1667 K Street NW
Suite 700
Washington, DC 20006
202.457.0480 office
202.552.8489 direct
202.457.0486 fax

gmoody@afpm.org
Learn more about AFPM at afpm.org

Message

From: Ron Minsk [Personal Email / Ex. 6]
Sent: 5/18/2017 2:07:02 PM
To: Washington, Valerie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9d031c02ce3a416dad0d421ee998d5a3-VWASHING]
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Dravis, Samantha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ece53f0610054e669d9dffe0b3a842df-Dravis, Sam]
Subject: Re: Request to Meet About the RFS

Hi Valerie,

I hope that all is well. I wanted to get in touch about finding a time to meet next week with Mandy and Samantha.

I am pretty flexible next week. I am not available Wednesday after 11:30 am or Friday between 10:30 am and 3:30 pm. Tuesday morning is not ideal, but can work if that is their only time. I am available all other times. Monday (all day), Tuesday (afternoon preferred), Wednesday (morning), Thursday (all day) and Friday (either early or late in the day).

Thank you for helping to find a time that works. You can reach me at 240-535-9799.

Warm Regards,

Ron Minsk

From: "Gunasekara, Mandy" <Gunasekara.Mandy@epa.gov>
Date: Wednesday, May 10, 2017 at 3:59 PM
To: R <rminsk> [Personal Email / Ex. 6]
Cc: "Washington, Valerie" <Washington.Valerie@epa.gov>, "Dravis, Samantha" <dravis.samantha@epa.gov>
Subject: RE: Request to Meet About the RFS

Hi Ron,

Yes – happy to meet. Apologize for delayed response. Cc'ing in Valerie Washington who can help with the logistics. I'm also cc'ing Samantha Dravis who will also be in this meeting from our end.

Valerie, can you find us a time/place to meet the week of the 22nd? I'm fairly flexible then. Please include Samantha and Brittany on the invitation.

Look forward to chatting soon.

Best,
Mandy

From: Ron Minsk [Personal Email / Ex. 6]
Sent: Friday, May 5, 2017 9:27 AM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Request to Meet About the RFS

Hi Mandy,

I wanted to introduce myself and request a meeting with you to discuss the RFS point of obligation issue. I served as the energy and environment person at the White House National Economic Council under President Obama during much of the time when the RFS was being addressed. I fully appreciate the complexity of the issue and sympathize with the difficulty of the issue that you are working on now.

I have long thought that moving the point of obligation was a way to substantially strengthen the program. Doing so would promote the blending of ethanol and reduce the cost by aligning the obligation to blend and the ability to blend. EPA has seemed to acknowledge the theory but has been skeptical with respect to whether there is data to support the theory.

I addressed this issue directly in comments that I filed in the docket recently and have attached to this email. In short, I show that obligated companies that are long are far less likely to blend than obligated parties that are short, and that the best way to promote blending is to adjust the incentives by moving the point of obligation. You can see these point most clearly in Figures 6 and 7 of my comments on pages 26 and 27 of the PDF file.

Without knowing what you are inclined to do, I know that even if you wanted to do this, you would want to be able to fully explain it. I also appreciate that there would be a lot of hard questions that stakeholders might raise. I know where you are because I have been there myself.

I would welcome the opportunity to walk you through my work and explain how I would answer the questions that I am sure you would want answers to if you want to make this change.

I am generally available to come in to meet with you. I can be reached at rminsk@earthlink.net and by phone at 240-535-9799.

I look forward to meeting you.

Warm Regards,

Ron Minsk
Former Special Ass't to the POTUS for Energy and the Environment

Message

From: Bond, Alex [ABond@eei.org]
Sent: 5/15/2017 7:57:47 PM
To: Rees, Sarah [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=Rees, Sarah]; Laws-Regs [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b01cf8e35ff34b929e0f7ee20677701e-Laws-Regs]
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]; Jackson, Ryan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=38bc8e18791a47d88a279db2fec8bd60-Jackson, Ry]; Dravis, Samantha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ece53f0610054e669d9dffe0b3a842df-Dravis, Sam]; Brown, Byron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9242d85c7df343d287659f840d730e65-Brown, Byro]; Shea, Quin [QShea@eei.org]; Fisher, Emily [EFisher@eei.org]; Steckelberg, Kathy [KSteckelberg@eei.org]; Chuck Barlow - Entergy Corporation (cbarlow@entergy.com) [cbarlow@entergy.com]
Subject: Comments of the Edison Electric Institute
Attachments: EEIComment_DocketID_EPAHQOA20170190.pdf

Dear Ms. Rees:

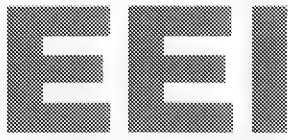
The Edison Electric Institute appreciates the opportunity to provide input on the Environmental Protection Agency's notice—in accordance with Executive Order (E.O.) 13777, Enforcing the Regulatory Reform Agenda—seeking comments on regulations that may be appropriate for repeal, replacement or modification. Our comments are attached here, and have also been submitted to the docket. Thank you!

--

Alex Bond
 Associate General Counsel, Energy & Environment
 701 Pennsylvania Avenue, N.W.
 Washington, D.C. 20004-2696
 202-508-5523
www.eei.org

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Edison Electric
INSTITUTE

Quinlan J. Shea, III
Vice President, Environment

May 15, 2017

Sarah Rees
U.S. Environmental Protection Agency
Office of Regulatory Policy and Management
1200 Pennsylvania Avenue, N.W.
Mail Code 1803A
Washington, D.C. 20460

[Submitted Electronically]

RE: Docket ID No. EPA-HQ-OA-2017-0190; Evaluation of Existing Regulations

Dear Ms. Rees:

The Edison Electric Institute (EEI) appreciates the opportunity to provide input on the Environmental Protection Agency's (EPA's or Agency's) notice—in accordance with Executive Order (E.O.) 13777, Enforcing the Regulatory Reform Agenda—seeking comments on regulations that may be appropriate for repeal, replacement or modification. The identification of these regulations is likewise consistent with the requirements of E.O. 13771, Reducing Regulation and Controlling Regulatory Costs, which stipulates that two regulations be identified for elimination or revision for every new regulation proposed and that the costs of regulations be managed and controlled via a budgeting process.

EEI is the association that represents all U.S. investor-owned electric companies. Our members provide electricity for 220 million Americans and operate in all 50 states and the District of Columbia. As a whole, our industry supports more than 7 million American jobs. Safe, reliable, affordable and clean energy powers the economy and enhances the lives of all Americans.

Driven by customer demands, technology developments, and federal and state regulatory obligations, the electric sector is undergoing a transition of its generating fleet that will continue over the next decade and beyond. Concurrent with this transition, EEI member companies are investing significant amounts of capital to make the energy grid smarter, more dynamic, more flexible, and more secure in order to integrate and deliver a balanced mix of resources from both central and distributed energy resources to customers.

The power sector has significantly decreased its emissions. At the end of 2016, the sector's emissions of sulfur dioxide (SO₂) were down 53 percent since 2014 and 91 percent from 1990 levels; emissions of nitrogen oxides (NO_x) were down by 28 percent and 82 percent, respectively over the same periods. Additionally, carbon dioxide (CO₂) emissions were nearly 25 percent below 2005 levels. This has all occurred while electricity demand has increased 36 percent since 1990.

To support the ongoing fleet transformation and facilitate the continued operation of electric generating units (EGUs), EEI supports cost-effective public policies and a streamlined approach to regulation. In particular, EEI continues to support efforts—administratively and legislatively—to reform the permitting and siting process for critical energy infrastructure projects. An efficient and expeditious permitting process will enable electric companies to invest in energy infrastructure projects that will benefit customers, achieve greater environmental benefits, create jobs, and stimulate the economy.

EPA efforts to evaluate existing and forthcoming regulations and to look for areas of potential improvement are a key step toward establishing a regulatory structure that can appropriately support and inform the types of long-term investments EEI's members make in both existing and new generation capacity, as well as electric transmission lines and natural gas infrastructure. Consistent with EPA's request and E.O. 13777, these comments focus on examples of EPA regulations and significant guidance documents that potentially could be revised in order to reduce administrative burdens, simplify and streamline the overall process, and enhance the ability of EEI's members to permit, site and operate generation, transmission and other infrastructure assets while maintaining environmental integrity.

Importantly, these comments specifically do not address wider regulatory initiatives already identified by the Administration—including, but not limited to, the Administration's stated intent to revise the Waters of the United States (WOTUS) rule; E.O. 13783, Promoting Energy Independence and Economic Growth, which requires a review and possible revision, rescission or replacement of the Clean Power Plan; the reconsideration of the effluent limitations guidelines and standards for the steam electric point source category; and, any changes to regional haze requirements. EEI and its members intend to participate in these initiatives as they are developed.

The Clean Air Act (CAA)

Many of EEI members' generation and other assets are subject to numerous requirements under the CAA and, in particular, are subject to requirements for individual source permitting. Briefly and non-exhaustively, EGUs often must obtain individual source permits as part of the State Implementation Plan (SIP) process to help attain and maintain the National Ambient Air Quality Standards (NAAQS) under CAA section 110, which includes permitting under the Prevention of Significant Deterioration (PSD) program contained across CAA sections 160-169. Further, fossil fuel-based EGUs are subject to New Source Performance Standards (NSPS) under CAA section 111, and have fully implemented standards to reduce emissions of hazardous air pollutants (HAPs) under CAA section 112. Fossil fuel-based EGUs also comply with requirements under Title

IV's Acid Rain Program, obtain operating permits consistent with Title V of the CAA, and address visibility concerns under CAA section 169A.

EEI's members aim to comply with this array of requirements in a coordinated and cost-effective fashion so that they can continue to provide safe, reliable and affordable electricity to customers.

Certain elements of these regulatory programs could be streamlined, improved or modified in order to reduce the administrative burdens these programs can impose, thereby reducing costs to customers while maintaining or exceeding current levels of environmental protection. Such changes would enhance the ability of EEI's members to permit, site and operate fossil fuel-based generation, transmission, and other infrastructure assets while also protecting the environment. To that end, EPA should:

- Modify the Greenhouse Gas Reporting Rule to incentivize the deployment of carbon capture and storage (CCS) technology by clarifying that CO₂ utilized for enhanced oil recovery (EOR) should not report under Subpart RR, but instead under Subpart UU. Such a change would help to incentivize, and make more cost effective, the deployment of CCS technologies by allowing the captured CO₂ to be utilized more widely for EOR;
- Evaluate stack testing and reporting requirements—which exist across multiple rules and programs—to streamline compliance requirements. Numerous programs under CAA sections 112 and 110, as well as requirements for compliance with CAA title IV and title V, require duplicative stack testing and emissions reporting. In addition, EPA should evaluate whether the frequency of testing that is currently required is necessary given the widespread use of Continuous Emissions Monitoring Systems (CEMS) by EGUs, and should evaluate whether the emissions reports required under current programs are duplicative of the reports contained within a unit's title V operating permit;
- Withdraw the “once in, always in” guidance that interprets certain CAA section 112 applicability requirements so that a major source will always be treated as major, even if it becomes an area source under EPA's regulation. Reinterpreting this guidance could encourage fossil fuel-based EGUs to make improvements that would reduce emissions if they would allow reclassification as a minor source, with the attendant reductions in reporting obligations;
- Reevaluate the final rule establishing operational and emission controls for units identified as commercial and industrial solid waste incineration (CISWI) units, which establishes standards on units that “combust[s] any solid waste.”

Historically, however, several types of materials have been introduced into utility boilers, including boiler cleaning waste and refined coal, as a practical way to manage material without increasing emissions and to reduce the emissions of certain contaminants. These beneficial practices should not trigger CISWI regulation, within the boundaries established by court precedent. The evaporation of boiler cleaning waste in utility boilers is a practical, cost-effective method for managing materials that are mostly or entirely water-based and does not increase emissions beyond regulatory thresholds. Accordingly, EPA should clarify the CISWI rule to explain that these activities do not necessarily trigger regulation, and allow fossil fuel-based EGU operators to manage waste materials and emissions in a cost-effective manner, subject to environmental considerations.

The Resource Conservation and Recovery Act (RCRA)

Many of EEI's members also are regulated under RCRA through the provisions of EPA's Coal Combustion Residuals (CCR) rule. While the CCR rule provides significant health protections and requirements for appropriately managing CCRs, the Water Infrastructure Improvement for the Nation (WIIN) Act provides a mechanism for implementation of the CCR rule through state or federal permit programs and therefore the rule should be revised to allow regulatory agencies to tailor the rule's groundwater monitoring and corrective action programs based on site-specific conditions while maintaining the rule's important environmental protections. This would reduce both administrative and substantive economic burdens on fossil fuel-based EGU operators. EPA should:

- Extend compliance dates established in the CCR rule to provide time for implementation of permit programs given the WIIN Act's establishment of procedures for states and EPA to implement the CCR rule through permit programs. This will avoid unnecessary capital expenditures for elements of the rule that may be implemented differently by a state permit program than as contemplated by EPA's final CCR rule;
- Revise the CCR rule to include site-specific flexibility regarding groundwater monitoring and corrective action similar to that provided in the municipal solid waste regulations and applied under state risk-based cleanup programs;
- Modify the CCR rule so that inactive surface impoundments (*i.e.*, impoundments that did not receive CCR after the rule's effective date) are not subject to regulation. EPA and the states can address any risks from these units in a more cost-effective manner under pre-existing imminent hazard provisions.

The Clean Water Act (CWA)

EEI's members are subject to numerous requirements under the CWA because some of the activities undertaken by electric utilities result in a discharge of pollutants to—or a modification of—a WOTUS, therefore requiring a permit under the CWA. Specifically,

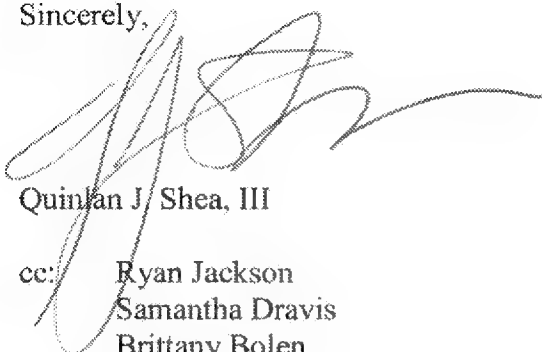
EEI's members often must comply with the requirements of section 402, the National Pollutant Discharge Elimination System (NPDES), and section 404, Permits for Dredged or Fill Material that include the streamlined Nationwide Permits (NWP) program. EGUs also are governed by a variety of other substantive CWA provisions that address water quality criteria and standards, including cooling water intake structures through CWA section 316(b) and effluent guidelines.

EEI's members strive to comply with this array of requirements in a coordinated and cost-effective fashion. However, certain parts of EPA's regulatory programs under the CWA could be streamlined, improved or modified to help reduce the administrative burdens these programs can impose, thereby reducing costs to customers while protecting the environment. To that end, EPA should:

- Withdraw the 2015 Water Quality Standard rule, which impinges on states' authority to set water quality standards while considering each state's priorities and greatly reduces state flexibility to consider other factors when establishing standards. The rule unnecessarily complicates the process and could hamper the ability of fossil fuel-based EGUs to obtain and comply with NPDES permits;
- Rescind EPA's 2016 human health criteria for Washington state and Maine and reinstate the prior practice of giving states discretion as to how they apply fish consumption and exposure criteria by allowing them to propose more applicable criteria. Allowing the states to propose their own criteria potentially save significant project implementation costs;
- Withdraw the proposed 2016 NPDES Application and Program Updates rule, which would make changes to the state-delegated NPDES program and establish federal veto authority, among other concerning programmatic changes. The proposed rule has the potential to create additional permit backlogs, and EEI looks forward to engaging in a constructive dialogue with the Agency to explore opportunities for achieving additional efficiencies in the NPDES program;
- Withdraw the final 2016 EPA-USGS report, "Protecting Aquatic Life from Effects of Hydrologic Alteration." The report addresses protections for aquatic life from the effects of flow alteration—in particular, for changes in historic flow patterns that can result from climate change. However, the final report did not address all the technical and policy concerns raised by commenters;
- Withdraw the proposed "Draft Field-based Methods for Developing Aquatic Life Criteria for Specific Conductivity" given the document's technical and scientific deficiencies that would generate overly conservative criteria, leading to unnecessarily costly implementation of water quality criteria.

Again, EEI appreciates the opportunity to provide input on the EPA's notice requesting comment in accordance with E.O. 13771. If you have any questions concerning EEI's input, please contact me (qshea@eei.org or 202-508-5027) or another member of the EEI team.

Sincerely,

A handwritten signature in black ink, appearing to read 'Quinlan J. Shea, III', with a long horizontal flourish extending to the right.

Quinlan J. Shea, III

cc: Ryan Jackson
Samantha Dravis
Brittany Bolen
Byron Brown
Mandy Gunasekara
Emily Fisher
Kathy Steckelberg
Chuck Barlow

Message

From: Moore, James D [Jamie.D.Moore@tsocorp.com]
Sent: 5/11/2017 7:29:19 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: meeting...


Hi Mandy -


I hope all is well your way and you are settling in over at EPA. I was wondering if I might be able to get a few minutes on your calendar to discuss RFS. I am flexible so if a particular time works well for you let me know and I will work around that. Thanks in advance and I look forward to hearing back from you.

Jamie D. Moore
Director Federal Government Affairs
Tesoro Companies, Inc.
601 Pennsylvania Avenue N.W.
Suite 850
Washington, D.C. 20004
(202) 803 5960 office
(202) 821 6900 cell

Message

From: President's Management Agenda Training [reply@potomacforumworkshop.org]
Sent: 5/16/2017 3:19:03 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: [SPAM] Next Tues: Using Big Data to Transform Government Workshop





Next Tuesday - May 23rd
Please Review and Forward to
Your Government Executives, Managers and Staff
Who Manage, Use or Intend to Use "Big" Data to Assist in Government Transformation
(This workshop will help in implementing the March Presidential Executive Order)
Potomac Forum Training Workshop

Transforming Government with Big Data Training Workshop
Understanding the Government Big Data and Artificial Intelligence Initiatives:
What You Need to Know to Do Your Job
- An Unbiased Perspective -

Date: Wednesday, May 23, 2017

Sponsored by:

Potomac Forum, Ltd.
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www.PotomacForum.org
(703) 683-1613
info@PotomacForum.org

Location of Workshop:
Willard InterContinental Hotel

Washington, D.C.**Potomac Forum Training Workshops are 100% Educational
"How To" Training Programs and
NOT Sales or Marketing Events****Press is Not Permitted to Encourage
Candid Discussion in our Learning Environment**

Latest information on Federal Big Data Strategic Plan and the Federal Artificial Intelligence R&D Strategic Plan Initiatives.

The Federal Government is one of the largest producers of data in the world. Big Data is transforming every agency across Government and many have already appointed Federal Chief Data Officers (CDO's) in response to OMB guidance. Federal agencies are using Big Data to transform government mission in scientific discovery, environmental and biomedical research, education, transportation and national security. Workshop details the role of agency CDO's in this transformation, describes the key tools and methods agencies are using to accelerate mission effectiveness and what is required to develop a successful Federal Agency Big Data transformative strategy.

Registration includes authored white papers entitled, "The Federal Big Data R&D Strategic Plan" and "Driving Innovation via Cognitive Assisted Internet of Things (IoT)"

Overview:

Transforming Government with Big Data is a one-day, in-depth, educational program for Government Executives, Managers, Program Managers and Staff & Industry Partners.

This event is not a vendor conference, but a training course that provides practical information for the Government and Industry on Big Data, the Federal Governments Big Data and Artificial Intelligence Strategic initiatives and what agency leaders can or should be doing now. No marketing or sales at 100% educational workshops.

What You Will Learn:

- **Understand Big Data issues and opportunities**
- **Understand Federal Big Data Strategic Plan**
- **Why Big Data is important to Government transformation**
- **What is Artificial Intelligence in Government**
- **Using Machine Learning and Cognitive Computing to Transform the mission**

- **Big Data Lessons Learned**

Why You Should Attend:

- **Understand Federal Big Data concepts and familiarize students with the Government Big Data Strategy**
- **Understand the role of Federal CDO's, why they are important to transforming Government**
- **Understand the AI R&D Strategic Plan, the impact to agency missions and what how to develop a Federal AI Roadmap**

Who Should Attend:

- **CDOs, Data Scientists and Staff**
- **CIOs and Staff**
- **IT practitioners**
- **Program Managers**
- **IGs and Staff**
- **Acquisition and Contracting Staff**
- **Government Employees who want to better understand Big Data**
- **Industry and Contractors who support the government and need to better understand Big Data at a detailed level**
- **IT Security Staff**
- **All government and industry members who need to understand Big Data and how it applies to the government mission.**

CEUs Awarded Upon Workshop Completion

Press is NOT Invited to Register or Attend to Promote Candid Discussion in Our Educational Environment

"Send-A-Team" Registration Fees

**This Training is for Government & Industry
No Press to Promote Candid Discussion**

Registration and Information:

www.potomacforum.org

Call: (703) 683-1613
Info@PotomacForum.org

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&
Sustaining Partner
Association for Federal Information Resources Management
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-

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Thank You.

This email was sent to: gunasekara.amanda@epa.gov

Go [here](#) to leave this mailing list or [modify](#) your email profile.
We respect your right to privacy. [View](#) our policy.



Potomac Forum, Ltd.

This email was sent by: Potomac Forum, Ltd.
400 North Washington Street , Alexandria , Virginia , 22314 , USA

Message

From: D'Angelo, Wayne J. [WDAngelo@KelleyDrye.com]
Sent: 5/24/2017 1:22:55 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Dominguez, Alexander [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5ced433b4ef54171864ed98a36cb7a5f-Dominguez,]
Subject: RE: location

Sure. The address is
 Kelley Drye & Warren,
 3050 K Street NW
 Suite 400

For more familiar reference, it is the office space on the Georgetown waterfront over Nick's Riverfront and Tony & Joes. If you get dropped off at the circle, it is the building on your right as you pass the small fountain (just past Starbucks).

If you send me an email when you leave, I can have someone wait for you to walk you up. My cell is Personal Phone / Ex. 6 if you have any questions or need anything. Personal Phone / Ex. 8

Wayne D'Angelo

Kelley Drye & Warren LLP
 (202) 342-8525 | wdangelo@kelleydrye.com

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Wednesday, May 24, 2017 9:18 AM
To: D'Angelo, Wayne J. <WDAngelo@KelleyDrye.com>
Cc: Dominguez, Alexander <dominguez.alexander@epa.gov>
Subject: location

Can you send me the address of where I go today?

The information contained in this E-mail message is privileged, confidential, and may be protected from disclosure; please be aware that any other use, printing, copying, disclosure or dissemination of this communication may be subject to legal restriction or sanction. If you think that you have received this E-mail message in error, please reply to the sender.

This E-mail message and any attachments have been scanned for viruses and are believed to be free of any virus or other defect that might affect any computer system into which it is received and opened. However, it is the responsibility of the recipient to ensure that it is virus free and no responsibility is accepted by Kelley Drye & Warren LLP for any loss or damage arising in any way from its use.

Message

From: Randy Hughes [rhughes@indepmo.org]
Sent: 5/23/2017 5:04:36 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: 'randy-hughes'; Personal Email / Ex. 6
Subject: Contact from Ken Riddle: Climate Change Discussions

Hi Mandy,

Thank you for agreeing to let Ken Riddle forward your contact information. As Ken may have indicated, I started an off-line APPA discussion group focused on answering one key question—"How do we provide the public with the fundamental truth regarding critical environmental issues?"

It's a crazy world when you have to ask such questions, but that's today's reality. As an example, APPA forced our discussions *off-line* because the fundamental truths are not "politically correct." How did we get here?

For decades, environmentalists have successfully created society-wide false beliefs using half-truths, misleading statistics, and compelling imagery. Anyone challenging these falsehoods is labeled a self-serving profiteer or compared to the tobacco industry's denial of a cancer link. The mainstream media repeatedly reinforces this same rhetoric. It's an approach that has proven successful since Rachel Carson's 1962 blockbuster book, *Silent Spring*.

This one-sided narrative has to change, but that can only happen if the fundamental truths come from a reputable source—like the EPA presenting unbiased science. I'm writing in hopes that you agree and also to offer an effective way to begin changing the narrative.

I've had success by revealing critical facts that have been hidden from the public; exposing historically wrong science; and showing that the Sierra Club, the UN, and other trusted organizations are not protecting the public's best interests. This approach is effectively demonstrated in a powerful new book titled **Popular Deceptions**.

With over 300 references to peer reviewed science and without bias; this book very calmly, rationally, and convincingly refutes society's most strongly held environmental beliefs. The book is completely unheralded, but has received phenomenal reactions, praise, and support from those who have read it. Several readers indicate they reordered 10 or more copies to distribute to their 'green' friends. It is impossible to over emphasize the convincing nature of this book and the approach it follows.

I would love to send copies of Popular Deceptions to you and selected members of your staff. If interested, please provide the proper contact / mailing information as well as the number of books you'd like to receive. You will not be disappointed!

Thank you for your time and consideration. I look forward to hearing from you in the very near future.

Sincerely,

Randy Hughes

Manager, Planning and Rates
 Independence Power & Light
 17221 E. 23rd St. S.
 Independence, MO 64057

Office: (816) 325-7497
Cell: (816) 719-9711
rhughes@indepmo.org

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA

AMERICAN FARM BUREAU
FEDERATION, and NATIONAL PORK
PRODUCERS COUNCIL,

Plaintiffs,

v.

U.S. ENVIRONMENTAL PROTECTION
AGENCY, and E. SCOTT PRUITT,
Administrator U.S. Environmental Protection
Agency,

Defendants,

and

FOOD & WATER WATCH,
ENVIRONMENTAL INTEGRITY
PROJECT, AND IOWA CITIZENS FOR
COMMUNITY IMPROVEMENT,

Intervenors.

**STIPULATION OF DISMISSAL
WITH PREJUDICE**

No. 13-cv-1751 (ADM/TNL)

IT IS HEREBY STIPULATED AND AGREED by and between the parties to the above entitled action through their undersigned attorneys that, pursuant to Federal Rule of Civil Procedure 41(a)(1)(A)(ii), this action shall be dismissed with prejudice. It is further stipulated that each of the above parties shall bear its own costs and fees.

Dated March 24, 2017

/s/ Michael B. Kimberly

Michael B. Kimberly
admitted *pro hac vice*
Mayer Brown LLP
1999 K Street NW
Washington, D.C. 20006
(202) 263-3127

Counsel for Plaintiffs

/s/ Tarah Heinzen

Tarah Heinzen
admitted *pro hac vice*
Food & Water Watch
1616 P St. NW, Suite 300
Washington, DC 20036
(202) 683-2457

Counsel for Intervenors

GREGORY G. BROOKER
Acting United States Attorney

/s/ Pamela A. Marentette

Pamela A. Marentette
Assistant U.S. Attorney
District of Minnesota
Attorney I.D. No. 0389725
600 United States Courthouse
300 South Fourth Street
Minneapolis, MN 55415
(612) 664-5600

Counsel for Defendants

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
Civil No. 13-1751 (ADM/TNL)

AMERICAN FARM BUREAU
FEDERATION, and NATIONAL PORK
PRODUCERS COUNCIL

Plaintiffs,

v.

U.S. ENVIRONMENTAL PROTECTION
AGENCY, and GINA McCARTHY,¹
Administrator U.S. Environmental Protection
Agency,

Defendants,

and

FOOD & WATER WATCH,
ENVIRONMENTAL INTEGRITY
PROJECT, AND IOWA CITIZENS FOR
COMMUNITY IMPROVEMENT,

Intervenors.

**STIPULATION OF SETTLEMENT
AND DISMISSAL**

WHEREAS, on July 5, 2013, Plaintiffs, the American Farm Bureau Federation (“AFBF”) and National Pork Producers Council (“NPPC”) (together, “Plaintiffs”), filed their Complaint for Declaratory and Injunctive Relief (“Complaint”), alleging a claim under the Administrative Procedure Act and seeking an Order enjoining the U.S.

¹ Scott Pruitt is now the Administrator of EPA. Pursuant to Rule 25(d) of the Federal Rules of Civil Procedure, Mr. Pruitt should be substituted for Gina McCarthy as defendant in this suit.

Environmental Protection Agency (“EPA”) from disclosing certain information (referred to herein as the “disputed information”) in response to Freedom of Information Act (“FOIA”) requests submitted by Earthjustice (EPA-HQ-2012-001337) and the Natural Resources Defense Council and the Pew Charitable Trusts (EPA-HQ-2013-001516).

WHEREAS, the disputed information consists of a set of 73 documents (“disputed information”) that EPA collected from twenty-seven state permitting authorities, eight state websites, EPA databases, and EPA regional offices, following the Agency’s determination to compile reliable information about concentrated animal feeding operations (“CAFOs”) in the United States using existing data sources rather than promulgating a rule requiring CAFOs to submit information directly to EPA.

WHEREAS, in this lawsuit, Plaintiffs allege that portions of the disputed information are protected by Exemption 6 of the FOIA, which pertains to “[p]ersonnel and medical files and similar files the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.” 5 U.S.C. § 552(b)(6).

WHEREAS, the disputed information consists of data pertaining to animal feeding operations, which is aggregated by state, for the following states: Alabama, Arizona, Arkansas, California, Colorado, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Louisiana, Maine, Maryland, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Washington, Wisconsin, and Wyoming.

WHEREAS, the disputed information was filed in the administrative record in this matter, at ECF. No. 69, Exhibits 16 and 32.

WHEREAS, Plaintiffs, AFBF and NPPC, and Defendants, Administrator Scott Pruitt and EPA, wish to avoid any further litigation and controversy and to settle and

compromise fully any and all claims and issues that have been raised, or could have been raised in this action, which have transpired prior to the execution of this Stipulation of Settlement and Dismissal ("Stipulation").

Now, therefore, the parties, by and through their respective counsel, hereby settle and compromise the above-captioned lawsuit. The parties stipulate that this matter is hereby settled and compromised on the following terms:

1. Defendants agree that only the columns reflecting permit status, city, county, and 5-digit zip code in the disputed information, which, as defined above, consists of 73 documents set forth at ECF No. 69, Exhibits 16 and 32, will be released in response to the FOIA requests at issue in this case, EPA-HQ-2012-001337 and EPA-HQ-2013-001516. All other columns and fields in the disputed information will be redacted pursuant to 5 U.S.C. § 552(b)(6).

2. Defendants have provided, and Plaintiffs have reviewed, the disputed information with the agreed-upon redactions, and those redactions are attached hereto as Exhibit A.

3. Defendants also agree to release the same redacted disputed information, as set forth in Exhibit A, in response to the following pending FOIA requests submitted to EPA Headquarters that seek the disputed information: (1) EPA-HQ-2013-006737; (2) EPA-HQ-2013-006604; (3) EPA-HQ-2013-004128; (4) EPA-HQ-2013-008906; (5) EPA-HQ-2013-007430; (6) EPA-HQ-2013-006913; (7) EPA-HQ-2013-004097; (8) EPA-HQ-2015-004064; (9) EPA-HQ-2015-006732; and (10) EPA-HQ-2016-008563. Defendants further agree to post the redacted disputed information, responsive to the

FOIA requests identified in Paragraphs 1 and 3, to FOIAonline (www.FOIAonline.regulations.gov), consistent with 5 U.S.C. § 552(a)(2)(D).

4. Within 7 calendar days of the execution of this Stipulation, Defendants will provide the redacted disputed information, set forth at Exhibit A, in response to the FOIA requests identified in Paragraphs 1 and 3 above.

5. Within 7 calendar days of the execution of this Stipulation, Defendants will request in writing that the FOIA requesters in EPA-HQ-2012-001337 and EPA-HQ-2013-001516 return to EPA or destroy all copies of any previous responses to those FOIA requests and cease any further or ongoing dissemination of the same.

6. This Stipulation does not bind Defendants with respect to its response to any FOIA request other than the FOIA requests identified in Paragraphs 1 and 3 of this Stipulation. Within 7 calendar days of execution of this Stipulation, Defendants agree to provide written instruction to EPA's Regional and Headquarters FOIA coordinators that if they receive a FOIA request seeking the disputed information, as defined above, they are to respond by referring the requester(s) to FOIAonline and referencing the response provided to EPA-HQ-2012-001337 and EPA-HQ-2013-001516. This instruction will also be included in the training described below in paragraph 7.

7. Defendants agree to conduct training for managers in EPA's Office of Water and Regional and Headquarters FOIA coordinators regarding the Agency's obligations under the FOIA and the Privacy Act. Among other things, the training will focus on Exemption 6 of the FOIA, the Privacy Act, and other relevant privacy issues. The training will be conducted in the 2017 calendar year.

8. Plaintiffs agree to dismiss this lawsuit with prejudice. Such dismissal shall be effected via the stipulation of voluntary dismissal with prejudice per Fed. R. Civ. P. 41(a)(1)(A)(ii) that is attached hereto as Exhibit B. The parties shall file with the Court such stipulation of dismissal within ten business days of execution of this Stipulation.

9. This Stipulation constitutes the full and complete satisfaction of any and all claims on behalf of Plaintiffs arising from (a) the allegations set forth in the complaint filed in this lawsuit and (b) any litigation or administrative proceeding that Plaintiffs have brought, could bring, or could have brought against Defendants regarding the specific FOIA requests identified in Paragraphs 1 and 3 of this Stipulation, including all claims for attorneys' fees and costs. Any and all remaining claims and issues in this litigation are released and waived by all parties.

10. This Stipulation does not constitute an admission of liability or fault on the part of Defendants, the EPA, or its agents, servants, or employees, and this Stipulation shall not be construed as an admission of liability or fault. This Stipulation is entered into by both parties for the sole purpose of compromising disputed claims and avoiding the expenses and risks of further litigation. This Stipulation will not be used in any manner to establish liability for fees, amounts, or hourly rates, in any other case or proceeding.

11. This Stipulation is binding upon and inures to the benefit of the parties hereto and their respective successors and assigns.

12. Each party will bear its own attorney's fees and costs.


13. The undersigned attorneys are authorized to enter into this Stipulation of Settlement on behalf of their respective clients.

14. This Stipulation may be executed in counterparts as if executed by both parties on the same document.

[Signatures next page]

U.S. ENVIRONMENTAL PROTECTION AGENCY &
E. SCOTT PRUITT, ADMINISTRATOR

GREGORY G. BROOKER
Acting United States Attorney
District of Minnesota

BY:  DATE: March 23, 2017
Pamela A. Marentette
Assistant United States Attorney

AMERICAN FARM BUREAU FEDERATION

BY: _____ DATE: _____
Ellen Steen,
General Counsel & Secretary

NATIONAL PORK PRODUCERS COUNCIL


BY: _____ DATE: _____
Michael Formica,
Assistant Vice President & Counsel, Domestic Policy

U.S. ENVIRONMENTAL PROTECTION AGENCY &
E. SCOTT PRUITT, ADMINISTRATOR

GREGORY G. BROOKER
Acting United States Attorney
District of Minnesota

BY: _____ DATE: _____
Pamela A. Marentette
Assistant United States Attorney

AMERICAN FARM BUREAU FEDERATION

BY:  DATE: March 23, 2017
Ellen Steen,
General Counsel & Secretary

NATIONAL PORK PRODUCERS COUNCIL

BY: _____ DATE: _____
Michael Formica,
Assistant Vice President & Counsel, Domestic Policy

U.S. ENVIRONMENTAL PROTECTION AGENCY &
E. SCOTT PRUITT, ADMINISTRATOR

GREGORY G. BROOKER
Acting United States Attorney
District of Minnesota

BY: _____ DATE: _____
Pamela A. Marentette
Assistant United States Attorney

AMERICAN FARM BUREAU FEDERATION

BY: _____ DATE: _____
Ellen Steen,
General Counsel & Secretary

NATIONAL PORK PRODUCERS COUNCIL

BY: Michael Formica _____ DATE: 3/23/2017
Michael Formica,
Assistant Vice President & Counsel, Domestic Policy

United States Court of Appeals
For the Eighth Circuit

No. 15-1234

American Farm Bureau Federation; National Pork Producers Council,

Plaintiffs - Appellants,

v.

U.S. Environmental Protection Agency; Gina McCarthy, Administrator of the U.S.
Environmental Protection Agency,

Defendants - Appellees,

Food & Water Watch; Environmental Integrity Project; Iowa Citizens for
Community Improvement,

Intervenor Defendants - Appellees,

National Federation of Independent Business Small Business Legal Center,

Amicus on Behalf of Appellant(s).

Appeal from United States District Court
for the District of Minnesota - Minneapolis

Submitted: October 22, 2015

Filed: September 9, 2016

Before LOKEN, MURPHY, and COLLOTON, Circuit Judges.

COLLOTON, Circuit Judge.

The American Farm Bureau Federation and the National Pork Producers Council appeal the district court's ruling that they lack Article III standing to bring a "reverse" Freedom of Information Act ("FOIA") suit, *see* 5 U.S.C. §§ 552, 706(2)(A), challenging the Environmental Protection Agency's disclosure of certain information about concentrated animal feeding operations. The associations contend that this disclosure is an unlawful release of their members' personal information. Assuming, for purposes of standing analysis, that their claim would be successful on the merits, the associations have established a concrete and particularized injury in fact traceable to the EPA's action and redressable by judicial relief. We therefore conclude the district court erred in dismissing this case for lack of standing. We further determine that the EPA abused its discretion in deciding that the information at issue was not exempt from mandatory disclosure under Exemption 6 of FOIA. *Id.* § 552(b)(6). Accordingly, we reverse and remand for the district court to consider the associations' request for injunctive relief.

I.

The Clean Water Act prohibits the discharge of pollutants into waters of the United States, except as authorized under the Act. 33 U.S.C. §§ 1311(a), 1342, 1362(7), (12), (16). The Act regulates numerous sources of potential water pollution, including concentrated animal feeding operations ("CAFOs"). *Id.* § 1362(14). A CAFO is any area where a certain number of animals are "stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period" and where "[c]rops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season." 40 C.F.R. § 122.23(b)(1), (2), (4), (6). A CAFO may not

discharge pollutants into the waters of the United States unless it obtains a National Pollutant Discharge Elimination System permit from the EPA or an authorized state agency. *See* 33 U.S.C. §§ 1311(a), (e), 1342, 1362(14); 40 C.F.R. § 122.23(d), (f).

A person seeking a system permit for a CAFO from either the EPA or an authorized state agency goes through the same application process. 40 C.F.R. §§ 122.21(i), 123.25(a)(4). An applicant submits an array of information, including the name of the owner or operator of the facility, the facility location and mailing address, a topographic map of the geographic area where the feeding operation is located, and the estimated amounts of manure, litter, and process wastewater generated per year. *Id.* § 122.21(i); *see id.* § 122.23(d). The Act requires that permit applications and issued permits must be available to the public. 33 U.S.C. § 1342(b)(3), (j).

In 2008, the Government Accountability Office issued a report stating that the EPA's information about CAFOs that received system permits from authorized state agencies was inconsistent and inaccurate. This report recommended that the agency compile a national inventory of CAFOs with system permits. U.S. Gov't Accountability Office, GAO-08-944, *Concentrated Animal Feeding Operations: EPA Needs More Information and a Clearly Defined Strategy to Protect Air and Water Quality from Pollutants of Concern*, at 48 (2008). At that time, a CAFO was required to obtain a system permit only if the operation actually discharged pollutants. The EPA expanded its system-permit requirement to include any CAFO that was designed, constructed, operated, and maintained in a manner that the CAFO would discharge, but the Fifth Circuit vacated the revised regulations as exceeding the agency's statutory authority. *Nat'l Pork Producers Council v. EPA*, 635 F.3d 738, 746, 756 (5th Cir. 2011).

In addition to issuing these revised regulations, the EPA agreed—as part of a settlement agreement with environmental organizations—to propose a separate rule

requiring all CAFOs to submit information to the EPA, whether or not the operations had a system permit. The proposed rule required certain information from all CAFOs: the contact information of the CAFO owner, the location of the operation's production area, and whether the operation had applied for a system permit. National Pollutant Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) Reporting Rule, 76 Fed. Reg. 65,431, 65,437 (proposed Oct. 21, 2011). Comments from industry observers and States, however, suggested that much of the information to be collected under the proposed rule was already available from sources other than the owners. The EPA consequently withdrew its proposed reporting rule and decided to collect the relevant information from federal, state, and local government sources. National Pollutant Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) Reporting Rule, 77 Fed. Reg. 42,679, 42,681 (July 20, 2012).

Although the GAO had criticized the EPA's internal data systems as incomplete, the agency did retrieve what information was available about system permits for CAFOs before issuing the proposed reporting rule. Much of the information from the agency's internal data systems is available to the public in a different format on a public website. *Enforcement and Compliance History Online*, Env'tl Protection Agency, <https://echo.epa.gov/> (last visited Aug. 25, 2016). The website's publicly available information includes "facility names, locations, permit information, inspections, violations, enforcement actions (completed actions only), and penalties."

After withdrawing the proposed reporting rule, the EPA obtained information about CAFOs for its national inventory from several sources. The agency has collected information from thirty-five States: twenty-seven States provided publicly accessible information at the EPA's request, two States referred the agency to the federal data systems for their CAFO information, and the agency retrieved CAFO information from eight States' websites (including two States that provided

information at the EPA's request). The EPA also gathered information about six States from its regional offices. While most of the information received from the States related to CAFOs, some States also gave the EPA information about other facilities.

While the agency was in the process of collecting this information, three organizations—Earthjustice, the Pew Charitable Trusts, and the Natural Resources Defense Council—submitted FOIA requests for the EPA's records with information about CAFOs. Some of the requested information included the legal name of the owner of the CAFO and the owner's mailing address, e-mail address, and primary telephone number. In response, the EPA released to the requesters information gathered from twenty-eight States and from the EPA's data systems. The EPA did not release information obtained from the remaining seven States, because the agency gathered those data after the FOIA requests. After the agency notified agricultural stakeholders, including the Farm Bureau and the Producers Council, of the release, the stakeholders raised concerns. The EPA agreed to investigate whether it had disclosed information that was not readily available to the public and that could trigger privacy concerns under FOIA.

In a letter dated April 4, 2013, the EPA informed the agricultural stakeholders of the agency's view that information concerning CAFOs from nineteen States did not implicate privacy interests that made the records eligible for withholding under Exemption 6 of FOIA. 5 U.S.C. § 552(b)(6). Exemption 6 excludes from mandatory disclosure "personnel and medical files and similar files the disclosure of which would constitute a clearly unwarranted invasion of personal privacy." *Id.* The EPA determined that Exemption 6 did not apply because the information from the nineteen States was accessible on a public website or available to the public on request, and that the release of that information thus did not implicate a substantial privacy interest. Even assuming a privacy interest, the agency determined that the weight of the public interest rendered any invasion of privacy not "clearly unwarranted."

On the same day as the April 4 letter, the EPA provided an amended response to the FOIA requesters after completing its review. The agency disclosed all information regarding CAFOs in nineteen States. The agency did not disclose some of the information obtained from several other States, however, because that information pertained to facilities without system permits or facilities not subject to federal or state mandatory permitting disclosure requirements. The EPA reasoned that the latter subset of information—which contained individual names, phone numbers, mailing addresses, and e-mail addresses—implicated a substantial privacy interest that outweighed the public interest in disclosure. At the close of the response, the EPA asked the FOIA requesters to return the agency’s initial response, and all of the requesters acceded to the request.

The EPA currently has information regarding CAFOs in seven additional States that was obtained after the initial FOIA requests at issue here. The agency has not yet released that information to the FOIA requesters. Since its amended response to the original FOIA requests, the agency has received seven more information requests seeking the same or similar information as the original requests; some requests also seek the information from the seven States that had not been released previously. The agency deferred those requests pending resolution of this litigation.

The Farm Bureau and the Producers Council brought this “reverse” FOIA action under the Administrative Procedure Act (“APA”), 5 U.S.C. § 706(2)(A). They sought an order preventing the EPA from making additional disclosures of personal information that it collects from the States and requiring the agency to recall the personal information that it released. The Farm Bureau and the Producers Council argued that 5 U.S.C. § 552(b)(6), known as Exemption 6 of FOIA, protected the information from mandatory disclosure, and that the agency abused its discretion and acted arbitrarily and capriciously or contrary to law by not withholding the information. Several environmental organizations—Food & Water Watch,

Environmental Integrity Project, and Iowa Citizens for Community Improvement—intervened in support of disclosure of the information.

The parties filed cross-motions for summary judgment. The district court granted summary judgment for the EPA and the Intervenor, concluding that the Farm Bureau and the Producers Council lacked standing under Article III of the Constitution. The Farm Bureau and the Producers Council appeal.

II.

Article III of the Constitution limits the jurisdiction of federal courts to “Cases” and “Controversies.” U.S. Const. art. III, § 2. “[S]tanding is an essential and unchanging part of the case-or-controversy requirement of Article III.” *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992). A plaintiff establishes standing by showing that he has suffered an injury in fact that is fairly traceable to the challenged conduct of the defendant and that will likely be redressed by a favorable decision. *Id.* at 560-61. “The standing inquiry is not, however, an assessment of the merits of a plaintiff’s claim.” *Red River Freethinkers v. City of Fargo*, 679 F.3d 1015, 1023 (8th Cir. 2012); see *Braden v. Wal-Mart Stores, Inc.*, 588 F.3d 585, 591 (8th Cir. 2009). In assessing a plaintiff’s Article III standing, we must “assume that on the merits the plaintiffs would be successful in their claims.” *Muir v. Navy Fed. Credit Union*, 529 F.3d 1100, 1106 (D.C. Cir. 2008).

Associations like the Farm Bureau and the Producers Council have standing to bring suit on behalf of their members, provided that the “members would otherwise have standing to sue in their own right, the interests at stake are germane to the organization’s purpose, and neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.” *Friends of the Earth, Inc. v. Laidlaw Env’tl. Servs. (TOC), Inc.*, 528 U.S. 167, 181 (2000). The EPA admits that

the latter two elements are satisfied; the only dispute is whether any members of the organizations would have standing to sue in their own right.

The district court accepted the EPA's argument that the Farm Bureau and the Producers Council lack standing because the personal information of their members is already publicly available. The Farm Bureau and the Producers Council argue that the court's analysis conflates the requirements of standing with the merits of their claims under the APA.

Injury in fact means an actual or imminent invasion of a concrete and particularized, legally protected interest. *Lujan*, 504 U.S. at 560. A party's injury in fact is distinct from its potential causes of action. *Carlsen v. GameStop, Inc.*, No. 15-2453, 2016 WL 4363162, at *3 (8th Cir. Aug. 16, 2016); *Braden*, 588 F.3d at 591, 593. Accordingly, a plaintiff need not prove an unlawful action to have standing, because "whether a statute has been violated 'is a question that goes to the *merits* . . . and not to constitutional standing.'" *Muir*, 529 F.3d at 1105-06 (quoting *La. Energy & Power Auth. v. FERC*, 141 F.3d 364, 367 (D.C. Cir. 1998)); see *Red River Freethinkers*, 679 F.3d at 1023.

The EPA reasons that because the disputed information was publicly available on the Internet or available for public review, further distribution of the information could not establish any injury. That conclusion, however, assesses the merits of the asserted privacy interest under FOIA rather than whether the associations' members had a legally cognizable interest in preventing the agency's release of their personal information. It was undisputed on the motions for summary judgment that the agency has released or will release personal information of association members without their consent as part of its response to the FOIA requests. That is sufficient to establish a concrete and particularized injury in fact: the nonconsensual dissemination of personal information. Whether the release of this information "would constitute a

clearly unwarranted invasion of personal privacy,” 5 U.S.C. § 552(b)(6), is a separate inquiry into the merits of the claim.

The EPA also contends that the plaintiffs cannot show causation or redressability. The agency asserts that the disputed information is already publicly available through the States, and the court cannot prevent further distribution and use of that information by third parties. This argument, however, rests on the agency’s flawed understanding of the plaintiffs’ alleged injury in fact. The asserted injury is the nonconsensual disclosure of personal information by the EPA. That injury was caused by EPA’s disclosures and threatened disclosures, and it can be redressed by an order requiring EPA to refrain from future disclosures and to recall information previously disclosed.

The Intervenor argues that the claims of the Farm Bureau and the Producers Council are moot because the EPA has already produced the information requested, and the information will remain in the public domain. The case is still live, however, because EPA has proposed to disclose more information from seven States, including Minnesota, and because EPA has the capacity to request the return of information that it already disclosed.

The Intervenor further contend that a dispute over the unreleased information from seven States is not ripe for review because the EPA has not made a final decision about whether to disclose it. *See* 5 U.S.C. § 704. The agency’s decision letter of April 4, however, is a “final agency action” under § 704, because the letter marks “the consummation of the agency’s decisionmaking process . . . from which legal consequences will flow.” *Bennett v. Spear*, 520 U.S. 154, 177-78 (1997) (internal quotations omitted). Based on its analysis in the April letter, the agency committed to release data that it had gathered about CAFOs. The agency agreed to delay releasing information gathered from certain States only until the conclusion of this litigation. The agency’s decision letter is therefore is a final, reviewable action

under the APA. For essentially the same reasons, the decision is ripe for review. *See Hawkes Co. v. U.S. Army Corps of Eng'rs*, 782 F.3d 994, 1002 n.2 (8th Cir. 2015).

In sum, members of the Farm Bureau and Producers Council allege that the EPA's disclosure of their personal information was based on a misapplication of a FOIA exemption designed to protect personal privacy. That allegation and the undisputed evidence of nonconsensual disclosures or impending disclosures by the EPA suffice to establish an injury in fact that was caused by the agency and is redressable by the court. The associations therefore have standing to challenge the agency's action.

III.

Although the district court ruled that the plaintiffs lacked standing to sue, the court's decision in substance addressed the merits of whether the EPA's disclosure constituted a clearly unwarranted invasion of personal privacy subject to Exemption 6 of FOIA. As the district court's decision on that question is foreordained, there is no point in remanding for the court to address the merits of the agency's action on Exemption 6. The parties have fully briefed the issue, and neither party identifies a question of fact that must be resolved by the district court. We thus proceed to consider whether the EPA's decision concerning Exemption 6 was an abuse of discretion, arbitrary and capricious, or contrary to law.

As a general matter, FOIA requires that the government provide information requested under FOIA to a requester. 5 U.S.C. § 552(a); *see In re Dep't of Justice*, 999 F.2d 1302, 1305 (8th Cir. 1993) (en banc). The Act, however, includes nine categories of information that are exempt from mandatory disclosure. 5 U.S.C. § 552(b). If requested information is exempt from mandatory disclosure, the agency normally may still elect to disclose the information, "unless something independent

of FOIA prohibits disclosure.” *Campaign for Family Farms v. Glickman*, 200 F.3d 1180, 1185 (8th Cir. 2000).

Exemption 6 of FOIA states that an agency is not required to disclose “personnel and medical files and similar files” if such disclosure “would constitute a clearly unwarranted invasion of personal privacy.” 5 U.S.C. § 552(b)(6). An agency’s review under Exemption 6 involves three steps. First, the agency must determine whether the request seeks personnel, medical, or similar files. The parties do not dispute that the information here involves “similar files.”

The agency must then determine whether disclosure would compromise a “substantial” privacy interest. *See Multi Ag Media LLC v. Dep’t of Agric.*, 515 F.3d 1224, 1228-29 (D.C. Cir. 2008); *accord Cook v. Nat’l Archives & Records Admin.*, 758 F.3d 168, 175-76 (2d Cir. 2014). If the agency determines that there is a substantial privacy interest in the information, the agency must then “balance the privacy interest of the individual against the public interest in disclosure” to determine whether the exemption applies. *Campaign for Family Farms*, 200 F.3d at 1185; *see Multi Ag Media*, 515 F.3d at 1229-31.

As a disclosure statute, FOIA provides only a cause of action to compel disclosure; it does not provide a means of preventing disclosure. *See* 5 U.S.C. § 552(a)(4)(B); *Chrysler Corp. v. Brown*, 441 U.S. 281, 290-94 (1979). A party aggrieved by an actual or impending disclosure, however, may bring a “reverse” FOIA action under the APA and obtain relief if the agency’s decision to disclose the information is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(a); *see Campaign for Family Farms*, 200 F.3d at 1184. A reviewing court cannot substitute its judgment for a permissible judgment of the disclosing agency, but the agency must examine the relevant factors and articulate a satisfactory explanation for its action. *See Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

The associations dispute the agency's conclusion that disclosure of the information would not compromise a "substantial" privacy interest. *See Cook*, 758 F.3d at 175-76; *accord Multi Ag Media*, 515 F.3d at 1229. In this analysis, "[a] substantial privacy interest is anything greater than a *de minimis* privacy interest." *Multi Ag Media*, 515 F.3d at 1229-30. While Exemption 6 speaks only of "personal privacy," we have never employed an "overly technical distinction between individuals acting in a purely private capacity and those acting in an entrepreneurial capacity." *Campaign for Family Farms*, 200 F.3d at 1189; *see Multi Ag Media*, 515 F.3d at 1228. Rather, we construe Exemption 6 broadly "as a general exemption that excludes 'those kinds of files the disclosure of which might harm the individual.'" *Campaign for Family Farms*, 200 F.3d at 1188-89 (quoting *U.S. Dept. of State v. Wash. Post Co.*, 456 U.S. 595, 599 (1982)). A CAFO owner thus may have a substantial individual privacy interest in the disclosure of the operations' records if the disclosure of those files would harm the owner personally. *Id.*

The information requested here includes personal information about CAFO owners, including names, home addresses, telephone numbers, GPS coordinates of homes, and information from which financial information could be gleaned. Declarant David Rydberg, for example, avers that his home address is the same as the address of his facility, that his family lives at that address, and that the global positioning coordinates that he provided to the State of Iowa match the location of his home. The EPA, however, has released that information over Rydberg's objection. The Farm Bureau and the Producers Council provide similar affidavits from several Minnesota farmers opposed to the impending release of their personal information by the agency.

The disclosure of names, addresses, telephone numbers, GPS coordinates, and financial statuses can implicate substantial privacy interests. *See U.S. Dep't of Def. v. FLRA*, 510 U.S. 487, 500 (1994); *Campaign for Family Farms*, 200 F.3d at 1188-89; *Multi Ag Media*, 515 F.3d at 1230. In this context, the disclosure of such

information would constitute a substantial invasion of privacy, because it would facilitate unwanted contact with CAFO owners by FOIA requesters and their associates, and even potential harassment of CAFO owners and their families. *See U.S. Dep't of State v. Ray*, 502 U.S. 164, 176 n.12 (1991); *Forest Serv. Emps. for Envtl. Ethics v. U.S. Forest Serv.*, 524 F.3d 1021, 1026 (9th Cir. 2008) (“The avoidance of harassment is a cognizable privacy interest under Exemption 6.”). One member of Food & Water Watch, for example, admits to having “participated in aerial and ground investigations of poultry facilities” and avers that “to protect our waterway under the Act, it is important to know the name and proper contact information for these facilities and their owners and operators.” Declarant Rick Grommersch of Minnesota provided details of an incident during which members of an environmental organization entered his property and told him that they were going to post pictures of his property online. The agency itself acknowledged in its proposed reporting rule “that providing latitude and longitude information might raise security or privacy concerns.” National Pollutant Discharge Elimination System (NPDES) Concentrated Animal Feeding Operation (CAFO) Reporting Rule, 76 Fed. Reg. at 65,438.

The EPA’s decision letter nonetheless concluded that Exemption 6 did not apply because the requested information was “well known or widely available within the public domain.” The agency emphasizes that much of the disputed information is accessible on federal or state websites or otherwise available in the public record.

The agency’s conclusion on this point was contrary to law. “An individual’s interest in controlling the dissemination of information regarding personal matters does not dissolve simply because that information may be available to the public in some form.” *FLRA*, 510 U.S. at 500. The EPA here is more than simply a second source for identical, publicly available information. The agency has aggregated vast collections of data from the majority of States—much of it obtained through state-specific information requests—and provided it to requesters in a single response.

In *United States Department of Justice v. Reporters Committee for Freedom of the Press*, 489 U.S. 749, 757 (1989), news organizations sought the release of criminal “rap sheets” compiled by the United States Department of Justice. These rap sheets compiled publicly-available information from local, state, and federal law enforcement agencies into a single report of subjects’ personal information and criminal history. *Id.* at 752. The Supreme Court upheld the Justice Department’s refusal to release the rap sheets, and rejected the requesters’ argument that there was no exemption from FOIA disclosure because the information was publicly available. The Court noted the “vast difference” between public records that might be found after a diligent search through various administrative files and “a computerized summary located in a single clearinghouse of information.” *Id.* at 764. *Reporters Committee* considered a privacy interest under Exemption 7 of FOIA rather than Exemption 6, but the decision provides important guidance in assessing a privacy interest under Exemption 6. *See FLRA*, 510 U.S. at 496 n.6.

Like the requesters in *Reporters Committee*, the requesters here seek access to “a single clearinghouse of information” compiled by a government agency. While the advent of the Internet has made some of the information at issue here more easily accessible than the information in *Reporters Committee*, CAFO owners still have a privacy interest in preventing the mass aggregation and release of their personal information by the government. The agency’s own extensive collection efforts and advocacy groups’ multi-year effort to obtain the data show that the EPA has consolidated information that would otherwise exist in considerably greater obscurity. *See Reporters Comm.*, 489 U.S. at 780.

That information about a particular owner might be obtained through publicly-available sources likewise does not preclude a substantial privacy interest. There is an important distinction “between the mere *ability* to access information and the likelihood of actual public *focus* on that information.” *Am. Civil Liberties Union v. U.S. Dep’t of Justice*, 750 F.3d 927, 933 (D.C. Cir. 2014). Although a requester

might be able to find the information he seeks on a website or in a State's publicly available files, the agency's comprehensive listing of CAFOs substantially increases the public visibility and accessibility of that information. The agency's release of the complete set of data on a silver platter, so to speak, eliminates the need for requesters and others to scour different websites and to pursue public records requests to create a comprehensive database of their own. If the information were so easily accessible, then it is passing strange that the parties would engage in protracted and expensive litigation to secure it through the Freedom of Information Act. *See Reporters Comm.*, 489 U.S. at 764. We conclude that the organizations' members have a substantial privacy interest in the personal information at issue.

As to some of the disclosures, the agency concluded alternatively that even if there were a substantial privacy interest in the number, size, and location of animal livestock operations, that privacy interest was outweighed by the public's interest in disclosure. In assessing that conclusion, "the only relevant public interest" is "the extent to which disclosure of the information sought would shed light on an agency's performance of its statutory duties or otherwise let citizens know what their government is up to." *Bibles v. Or. Nat. Desert Ass'n*, 519 U.S. 355, 355-56 (1997) (per curiam) (quotations and brackets omitted). FOIA's purpose "is not fostered by disclosure of information about private citizens that is accumulated in various governmental files but that reveals little or nothing about an agency's own conduct." *Reporters Comm.*, 489 U.S. at 773; *see FLRA*, 510 U.S. at 495-96.

The EPA asserts that there is a public interest in disclosing the collected CAFO information because it provides the public with information about the agency's efforts to implement the Clean Water Act. But the disclosure of names, addresses, phone numbers, e-mail addresses, and GPS coordinates does not directly shed light on the agency's performance of its statutory duties. *See* 489 U.S. at 773. The EPA argues instead that the disclosures will indirectly promote this public interest by showing that the agency followed through on its commitment to gather CAFO information

from existing sources and demonstrating that the agency is succeeding in its efforts to create a comprehensive inventory of information about CAFOs.

The EPA's contention is unconvincing, because other records responsive to the FOIA requests address those two public interests without invading personal privacy. The EPA's 2012 memorandum of understanding with the Association of Clean Water Administrators details the agency's collaborative effort with the Association to focus on "identifying CAFOs and obtaining pertinent information about CAFOs on a state by state basis for use" by the EPA. The memorandum explains the agency's "plan to take the following steps to achieve" the listed objectives, including that the EPA would "[u]se best efforts to facilitate the collection and transfer of CAFO information currently maintained by states" to the agency. Another internal document sets forth an "Implementation Workplan" that outlines "specific tasks" to meet the agency's "action items" and establishes a time frame for collecting the CAFO data.

The records also show that the agency followed through on its plan. An e-mail from an EPA employee in November 2012 explained to a Florida state official that the agency had completed forty-two telephone calls with state officials to collect CAFO information. The e-mail attached a standard agenda used for those calls, which included discussions about the "[a]mount and format of state permitting records for CAFO data elements," along with the "[e]xchange of information" between the respective State and the EPA. There is a presumption of regularity accorded to the EPA's collection efforts, and the agency records described above largely address the public interest in knowing how the agency proceeded to collect CAFO information in the wake of the GAO report. *See Ray*, 502 U.S. at 179.

The disputed spreadsheets themselves could be disclosed in redacted form and still inform the public about the agency's collection efforts. *See id.* at 174, 177-79. If information implicating a substantial privacy interest were redacted, the spreadsheets with columns reflecting only system permit status, city, county, and zip

code would reflect the scope and comprehensiveness of the EPA's collection efforts without intruding on the personal privacy of CAFO owners. The marginal public interest in disclosing personal information such as names, street addresses, phone numbers, e-mail addresses, and GPS coordinates is *de minimis*. To recognize a public interest in disclosure of private information merely to verify that it has been collected would swallow the rule that Exemption 6 protects against clearly unwarranted invasions of personal privacy.

The EPA suggests that Congress, having required public disclosure of permits and permit applications, placed a premium on citizen involvement in the regulatory process under the Clean Water Act. Therefore, the agency argues, there must be a public interest in releasing personal information about CAFO owners to the requesters. The Clean Water Act, however, did not amend the public interests that are relevant *under FOIA*—*i.e.*, shedding light on an agency's performance of its statutory duties. That the requesters may seek to vindicate policies underlying the Clean Water Act does not affect the FOIA analysis under Exemption 6. *See FLRA*, 510 U.S. at 499.

All told, we conclude that the EPA's disclosure of spreadsheets containing personal information about owners of CAFOs would invade a substantial privacy interest of the owners while furthering little in the way of public interest that is cognizable under FOIA. Under those circumstances, disclosure "would constitute a clearly unwarranted invasion of personal privacy," 5 U.S.C. § 552(b)(6); *see FLRA*, 510 U.S. at 500-02, and it was an abuse of discretion for the agency to conclude otherwise. Accordingly, the agency records at issue were exempt from mandatory disclosure. *Campaign for Family Farms*, 200 F.3d at 1189.

The Farm Bureau and the Producers Council urge this court to go further and direct the entry of injunctive relief that would prevent the EPA in its discretion from disclosing the records. We explained in *Campaign for Family Farms* that normally,

“an agency has discretion to disclose information within a FOIA exemption, unless something independent of FOIA prohibits disclosure.” *Id.* at 1185. The associations contend that the Privacy Act is a source of law independent of FOIA that forbids disclosure. They rely on a provision of the Privacy Act that prevents an agency from disclosing any record which is contained in a system of records without the prior written consent of the individual to whom the record pertains, unless disclosure of the record would be required under FOIA. 5 U.S.C. § 552a(b)(2). The associations also contend that it would be arbitrary and capricious under the APA for the EPA to release information contrary to an internal agency policy that allegedly requires categorical withholding of information subject to Exemption 6. The EPA responds that the cited provision of the Privacy Act does not apply to the records at issue in this case, and that the agency has no internal policy in place that would have prohibited disclosure if the agency had applied Exemption 6. The record was not developed, however, concerning any internal agency policy, and the district court—having dismissed the case for lack of standing—did not address whether injunctive relief was appropriate on either ground asserted by the associations. We therefore remand the case for further proceedings on this question.

* * *

For the foregoing reasons, the judgment of the district court is reversed, and the case is remanded for further proceedings consistent with this opinion.

Message

From: Walz, Barbara [bwalz@tristategt.org]
Sent: 6/5/2017 11:15:21 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Thank you for your time
Attachments: 170331a Walz to DOC Permit Streamlining and Reducing Regulatory Burdens.pdf

Hello Mandy – I am late on this email to thank you for your time (I needed to track down your email address).

Sure appreciate the time that we had with you and Administrator Pruitt with the G&T cooperative group in April.

Congratulations on your new role! How exciting!

I would like to offer to serve as a resource for electric utility (cooperative) environmental issues, if you need any information or examples of projects, regulations for the regulatory reform

I have attached the comments that we sent to the Department of Commerce, just as an fyi – to show what issues are important to us.

I KNOW you are super busy, and don't expect a reply, but, wanted to reach out to you and get you my contact information.

Best wishes in the new position – happy you are there!

Barbara

Barbara Walz
Senior Vice President
Policy and Compliance
Tri-State Generation and Transmission Association, Inc.
303-254-3184


TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC.
HEADQUARTERS: P.O. BOX 33695 DENVER, COLORADO 80233-0695 303-452-6111

March 31, 2017

U.S. Department of Commerce
 Docket ID No. DOC 2017-0001-0001
 Office of Policy and Strategic Planning
 H.C. Hoover Building Rm 5863
 1401 Constitution Ave. NW
 Washington D.C. 20230

Submitted Via: Regulations.gov

Tri-State Generation & Transmission Association, Inc. (Tri-State) is a not-for-profit, wholesale electric power producer/supplier that serves 43 rural electric cooperatives and public power districts in Colorado, Nebraska, New Mexico and Wyoming. Tri-State's transmission and member distribution systems serve a population of approximately 1.5 million people across a 250,000-square-mile service territory. The mission of Tri-State is to provide our member systems with a reliable, cost-based supply of electricity while maintaining high environmental standards. Tri-State provides electricity to its members based on a diverse mix of generation resources including coal, natural gas, hydroelectric, wind and solar power located throughout its four-state member service territory.

Tri-State appreciates the opportunity to provide public comments on the request for information pursuant to President Trump's Memorandum of January 24, 2017, "Streamlining Permitting and Reducing Regulatory Burdens for Domestic Manufacturing". Tri-State appreciates President Trump's recognition of the heavy burden that is placed upon manufacturing by the regulatory programs of agencies identified in the Presidential Memorandum and appreciates Secretary Ross's outreach in this effort to collect public input from domestic manufacturers and their stakeholders. Tri-State submits these comments as a stakeholder in domestic manufacturing in the United States. The cost to produce electricity is often a significant part of the cost of manufacturing. The obstacles and impediments that present themselves to building, maintaining and operating our infrastructure cause and create excess costs for manufacturing and can create delays in providing service when it is needed.

Tri-State recognizes and appreciates the President's Executive Order Promoting Energy Independence and Economic Growth. The direct effect of the order will be to rescind several guidance documents that have placed a significant regulatory burden on our ability to provide reliable and cost effective electric power to our members, however we want to underscore that it will be important for the individual agencies within the administration to follow through on the review of rules that have been

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 NUCLA, CO 81424-0698
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U.S. Department of Commerce
March 31, 2017
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adopted, like the Clean Power Plan and to "...suspend, revise or rescind..." the final rules "...as soon as practicable, ...".

As a stakeholder in the manufacturing of goods and services in the United States the regulatory programs that have been adopted and implemented over the past many years have created a significant burden on our ability to produce reliable electricity for our customers in a cost effective manner. The layering of requirements from different media programs has forced the closure of generation facilities well before financing is paid and well before the remaining useful life of many facilities has been reached – forcing utilities to either buy power on the market or build new generation. Below are some key issues that have, or will in the future, adversely affected our ability to provide electric service to domestic manufacturing in America.

Clean Power Plan

Litigation over this rules' requirements is currently ongoing, and we are pleased to see that the Trump Administration has asked the court to hold this litigation in abeyance while EPA reviews this rule per President Trump's recently signed Executive Order. The current final rule exceeds EPA's statutory authority, displaces state responsibility, and requires significant changes to the electric utility industry that go well beyond the control of the individual sources being regulated. The scope of any new rule should be limited to standards that can be achieved within the fence line of a given facility and utilities should be provided a narrative standard with flexibility in meeting any requirement that is adopted.


Greenhouse Gas Requirements for New Sources - 111(b)

The rule requires that new sources must implement a system of carbon capture and sequestration. These systems are not proven technology, are not commercialized and are cost prohibitive in the market place. As implemented, the requirements of this rule prevent any future opportunity for the development of new coal-fired electric generation in the United States. We are pleased to see that the Trump Administration has asked the court to hold this litigation in abeyance while EPA reviews this rule per President Trump's recently signed Executive Order. Any new rule promulgated should be consistent with a consideration of the "best system of emission reduction" definition for the New Source Performance Standard requirements contained in the of the Clean Air Act and specifically reexamine the current rule's assumptions on the current state of technology.

Social Cost of Carbon

The Obama Administration finalized a "social cost of carbon" estimate to place a monetary value on the supposed future damages from global climate change over hundreds of years in order to justify onerous regulation of carbon dioxide emissions. This estimate was developed by administration officials with little opportunity for public input, and the resulting cost estimate could vary wildly based on multiple arbitrary cost and modeling assumptions. We are pleased

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that the Trump Administration has rescinded this fatally flawed estimate and disbanded the interagency work group.

CEQ NEPA Guidance on Climate Change and Greenhouse Gases


The Obama Administration finalized guidance to federal agencies on how to consider the impacts of proposed federal actions on climate change as part of the environmental review under the National Environmental Policy Act (NEPA). This guidance, which was not subject to formal notice and comment, represented an unreasonable and inappropriate expansion of existing CEQ NEPA regulations. Further, this guidance would have significantly impacted proposed energy and water infrastructure improvements, adding further delays and uncertainties. We are pleased that the Trump Administration has rescinded this guidance.

Regional Haze Rule SIP/FIP

The statutory goal of the regional haze rule is to achieve natural visibility conditions in the nation's National Parks, Wilderness areas (Class I areas) by 2064. "Natural conditions" is defined to mean visibility in pre-industrial America. Given the global nature of air quality and the current operation and needs of our society, this does not seem reasonable. There are several aspects of this program that need to be addressed:

- Under this program States are supposed to have the primary role in determining how best to make emissions reduction and put themselves on a 'glide-path' to achieving the goal. EPA has directed the initial focus of this program on electric generating units, largely to the exclusion of other sources of air pollutant emissions and the focus of some states. Phase I of this program has largely been implemented and compliance is due by 2018. In recent years, EPA has become much more prescriptive in forcing states to impose high cost, low benefit pollution controls to drive a policy perspective against coal fired electric generation based on aesthetics rather than human health and the environment.
- EPA has largely demanded that states impose selective catalytic reduction technology to control NOx emissions. Retrofitting this technology to existing sources can cost hundreds of millions of dollars per electrical generating unit.
- EPA has started planning for Phase II of the program and has proposed a guidance document for states that continues to erode state authority over their programs. The rule requires that regional haze plans be reviewed and revised every ten years. This period of time is insufficient to assess appropriate emission controls, develop plans and implement emission reductions in a reasonable fashion.
- Achieving natural visibility conditions representative of pre-industrial times will be a significant effort that many believe is unachievable given the current make up and operation of our society. As this program goes forward, EPA must consider the impact of other sources of emissions and what to do about them, such as the emissions from wild and prescribed fire, the emissions from on and off road mobile sources and international emissions. The administration should revise the proposed EPA guidance and EPA

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oversight to put the decision making back in the hands of the states and allow states the time and discretion to cost-effectively manage this program towards a goal that is still 48 years away.

- A good first step is to extend the 2028 planning and compliance cycle by at least 3 years, which gives states and the regulated community added time to meet the next round of limits.
- Many states and industry groups have provided specific remedies in comments on the proposed guidance that clarifies where EPA has overstepped their authority and how it can be fixed.

2015 Ozone NAAQS Implementation Rule

On November 16, 2016, EPA proposed the 2015 Ozone NAAQS (70 ppb) “Implementation Rule”. The proposed rule sets forth how EPA would continue to treat the existing (2008) Ozone NAAQS and what States would be required to do in the development of State Implementation Plans for areas that do not attain the 2015 standard. Adoption of the 2015 ozone NAAQS is based on limited scientific data and is unnecessary and inappropriate. The 2008 ozone NAAQS, a standard that was determined to be fully protective of public health and the environment, hasn’t even been fully implemented. The reduced level of the standard will cause more stringent levels of nonattainment to be classified and more stringent emissions controls to be required on existing operations at significant costs.


In the proposed Implementation Rule EPA needs to do a better job of accounting for background concentrations of ozone that travel into a non-attaining area by recognizing the Clean Air Act provision that provides relief from international sources of emissions applies to all states and by providing states with tools to address ozone from natural sources and other distant or out of state sources. Large areas across the country are being designated as nonattainment when significant amounts of ambient ozone are being transported into these areas from outside the country or from great distances. In some cases nonattainment areas are responsible for less than 50% of their ambient ozone concentrations. Once a nonattainment area is defined EPA should not require states to evaluate other distant sources within the State but outside the nonattainment area for additional emission controls.

We support the bill that has been introduced in Congress to extend the effective date of the 2015 Ozone NAAQS to 2025. If the 2015 ozone NAAQS is retained, the 2008 Ozone NAAQS should be revoked once new classifications are adopted.

EGU MACT/MATS

The EGU MACT or MATS Rule was adopted as a final rule in February 2012 and has been implemented across our industry for a few years, however, this rule requires control equipment on coal -fired power plants for mercury, HCl, and other emissions that were justified based on

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benefits of particular matter emission reduction co-benefits, which were double-counted with other air quality regulations. Again, there are many issues that need to be addressed;

- EPA never actually determined that there was an adverse health impact from the emissions of HCl from electric generating units.
- It is widely recognized that the initial impact of this rule; gigawatts of coal fired generation being shut down has already occurred, however, the rule's ongoing implementation should be scaled back to provide owners and operators relief from the monitoring/testing, recordkeeping and reporting requirements of this rule.
- The rule has required the installation of monitoring equipment and third party testing every quarter that costs approximately \$100,000 per year per unit. The on-going testing and monitoring is excessive, burdensome, in some cases duplicative and provides little benefit, especially for units that are consistently meeting the standards. Now EPA is preparing to conduct its Risk and Technology Review and consider the application of more stringent emissions controls and or testing, monitoring, reporting and record keeping.
- The administration should review the MATS rule pursuant to the March 28th Executive Order Promoting Energy Independence and Economic Growth, petition the court to hold the current litigation in abeyance and reconsider the supplemental finding regarding the consideration of costs for the final rule.

Air Quality Modeling

EPA's air quality models are used to demonstrate projected future compliance with the NAAQS. These models are based on extreme worst case simulations and employ assumptions that are not realistic, creating inappropriate limitations on industrial and manufacturing operations, which significantly increase the cost of manufacturing and infrastructure development based on modeled simulations of impacts that are unlikely to ever happen, and greatly increase costs for little or no measureable benefits. Current models (AERMOD) have been shown to over-predict impacts from a wide range of industrial and manufacturing operations. Because the NAAQS are becoming increasingly stringent, it is important to refine the models and the assumptions that are plugged into them to minimize the over prediction of impacts. Recently updated versions of AERMOD and AERMET reflect improvements but more revisions are necessary.

Numerous meetings and discussions have been held and information has been provided to help address and improve identified modeling irregularities. EPA has agreed that improvements need to be made to the modeling system and guidance and even signaled that they planned to make them.

Changes to the models that EPA uses should be made to decrease over-prediction and to increase modeling efficiency. Inaccurate modeling that over-predicts real-world impacts and real-world



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costs is very often the step that delays or kills projects, or makes them so expensive, risky, and difficult to accomplish that investments and jobs shift to other resources and countries.

We ask:

- that more reasonable modeling assumptions that reflect real-world potential outcomes be required in permitting processes, and
- that the timeframes for review and issuing permits be sped up to allow timeframes that match changing market conditions and economic forces in the real world.
- these modeling improvements apply to both greenhouse gas and criteria pollutants.

Waters of the United States Final Rule

The administration has identified the Waters of the U.S. (WOTUS) rule as exceeding statutory authority under the Clean Water Act (CWA) and federal jurisdiction, as described in Supreme Court decisions. The rule is currently stayed. The administration should ask the court to hold the litigation in abeyance and withdraw the 2016 rule. The current regulations are protective of the waters of the U.S.


Steam Electric Effluent Limitation Guidelines (ELG) Final Rule

The Steam Electric Effluent Limitation Guidelines (ELG) rule prohibited any discharge of wastewater from coal ash transport or management, and imposed limits on other discharges to water that may not be actually achievable. EPA cloaked the data and analyses underlying the final decisions under an expansive interpretation of “confidential business information.” The rule is under litigation, but since opening briefs were only filed December 5th, the administration should request the court hold the litigation in abeyance and revisit the rule. Revisiting the rule would align with two of the new administration’s priorities: energy independence (the rule only applies to coal-fired power plants) and regulatory reform (the rule sets a troubling precedent for hiding critical technical justification for the rule).

Cooling Water Intake Structure Final Rule

In the “316(b) Rule,” EPA provided significant flexibility and state discretion in approaches to protect fish and other aquatic species from being harmed by a facility’s cooling water intake system. In the rule, EPA provided an explicit requirement for the Fish and Wildlife Service or the National Marine Fisheries Service (the Services) to review all permits for potential impact to Endangered Species Act (ESA)-listed species, and especially to recommend new and costly technologies (such as closed-cycle cooling systems). The concern is how the Services will conduct these reviews, especially how they will establish the baseline for measuring potential effects. The new administration should revise guidelines and policies to clarify the Services’ role in reviewing 316(b) permits or other CWA decisions. Such an effort would not only improve implementation of the 316(b) rule, but other ESA assessments performed by the Services.

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Coal Combustion Residual (CCR) Management

The CCR rule is being implemented by coal-fired power plants nationwide under a self-implementing/citizen-enforced regime. The recently passed Water Infrastructure Improvements for the Nation (WIIN) Act creates a pathway to implement the program through permits (state-issued permits in states that assume the program, EPA-issued permits in other states) that could reflect site-specific conditions rather than the current inflexible one-size-fits-all criteria. The EPA should expeditiously establish processes to review and approve state permitting programs. EPA should make the federal program more risk-based, especially with respect to groundwater protection, corrective action, and closure, through guidance and upcoming rulemaking resulting from the 2016 settlement agreement. Congress should appropriate funds for, and EPA should establish, a site-specific, risk-based CCR permitting program in states that do not establish their own CCR permitting programs. The administration should retain the non-hazardous designation for CCRs and work with Congress to make that designation permanent and to assure funding for the federal permitting program in states that do not elect to issue state permits.

Presidential Memorandum on Ecosystem Services

This memo was issued on October 5, 2015 regarding the concept of incorporating “ecosystem services” into federal decision-making. Ecosystem services are broadly defined as the benefits that flow from nature to people. The memo directed federal agencies to develop policies to promote the consideration of ecosystem services into agency decisions, including regulatory contexts and in NEPA reviews. The memo also identified the need for development of new CEQ “implementation guidance” within 14 months. What this concept can and has led to in practice for some industries is a push by agencies to request/require “mitigation” and impact fees for natural resource impacts beyond what the regulated community is accustomed to (e.g. mitigation for habitats/ecosystems that are not rare, unique or otherwise protected such as wetlands or ESA species habitats).

Final Critical Habitat Regulations and Policy

The USFWS issued final regulations and policy in February of 2016 regarding the designation of critical habitat under the Endangered Species Act (ESA). These regulations and policy inappropriately expanded the concept of critical habitat and would allow for the designation of currently unoccupied lands that might at some future point develop and contain the habitat features necessary for the species. These final rules should be revoked and the USFWS should simply revert back to the previous critical habitat rules.

Final BLM Mitigation Policy & Manual and USFWS Compensatory Mitigation Policy

Effective January 30, 2017, the BLM revised its policy and handbook providing guidance on implementing mitigation to address impacts on BLM-managed lands. The policy and handbook exceed the statutory authority of FLPMA by incorporating concepts like using a “landscape scale” approach from President Obama's memorandum on mitigation impacts on natural

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resources from development and Secretarial Order 3330. The scope of mitigation will add significant burden and cost to infrastructure built and maintained on BLM lands. The administration should rescind the policy and review whether FLPMA gives BLM the statutory authority to even require mitigation. Similarly the USFWS' final compensatory mitigation policy from November of 2016 relies on the concepts of "net benefit" and "no net loss" as well as the sequential mitigation hierarchy in the presidential memorandum on mitigation that was recently rescinded by executive order. These concepts are inconsistent with the ESA and a revised compensatory mitigation policy should be developed.

Tri-State appreciates the opportunity to provide these written comments on the Request for Information from the Department of Commerce seeking information on the impacts of federal permitting and the adverse impacts from regulations on domestic manufacturers and their stakeholders. If you have any questions about Tri-State's comments, please contact Doug Lempke of our staff at 303-254-3590.

Sincerely,

Barbara A. Walz
Senior Vice President
Policy and Compliance
Chief Compliance Officer

BAW:DAL:dbf

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bcc: Andy Berger
Dan Casiraro
Dave Lock
Doug Lempke
File: P3 – 1.28

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A Touchstone Energy Cooperative 



1300 L Street NW Suite 1020 • Washington DC 20005-4168
 phone 202.842.0463 • fax 202.842.9126
 nopa@nopa.org • www.nopa.org

May 15, 2017

VIA ELECTRONIC MAIL

Office of Regulatory Policy and Management
 Office of Policy
 Environmental Protection Agency
 1200 Pennsylvania Ave. NW
 Washington, DC 20460

Re.: NOPA's Comments on Evaluation of Existing Regulations (82 Fed. Reg. 17,793)
 (Docket ID No. EPA-HA-OA-2017-0190)

Dear Ms. Dravis:

The National Oilseed Processors Association (NOPA) appreciates the opportunity to submit comments on EPA's Evaluation of Existing Regulations (82 Fed. Reg. 17,793, April 13, 2017).

The National Oilseed Processors Association (NOPA) is a national trade association that represents 13 companies engaged in the production of food, feed, and renewable fuels from oilseeds, including soybeans. NOPA's member companies process more than 1.8 billion bushels of oilseeds annually at 64 plants located in 20 states throughout the country.

The NAICS code that directly applies to oilseed processing facilities is 311224 – Oilseed processing. NOPA member company facilities range in size from small, family-owned businesses to large multi-national corporations.

NOPA belongs to the New Source Performance Standard (NSPS) DD Coalition, the National Ambient Air Quality Standards (NAAQS) Implementation Coalition (NIC), and the Food Associations Coalition managed by Herbert Estreicher of Keller and Heckman and fully support the comments submitted by those groups to this docket.

Regulatory Burden/Compliance

The ever-changing landscape of regulatory requirements for manufacturing facilities results in more and more resources devoted to compliance, in lieu of investing in new equipment and additional jobs. The list compiled below reflects regulations and policies that have a detrimental impact to the oilseed processing industry.

- 1) ***EPA's NAAQS/Preconstruction Permitting Process.*** One of the biggest concerns with NAAQS is that a new/revised NAAQS is effective almost immediately after finalization, without any accompanying implementation regulations. A facility undergoing permitting may have to restart the entire permitting process in order to accommodate a revised NAAQS that becomes effective before the final permit is issued. The PSD regulations are highly complex and their implementation is largely achieved through ever-changing EPA guidance and policy documents that have not gone through rulemaking. As noted in comments below and in more detail in the comments submitted by the NIC, EPA's Appendix W modeling requirements do not accurately predict emission impacts for all

facilities, and can lead to overly restrictive pollution control requirements. EPA should strive to promptly issue implementation regulations after a new NAAQS is finalized in order to provide certainty to the regulated community.

- 2) ***EPA's NSPS DD (Grain Elevators) Rulemaking.*** As noted in the comments submitted by the NSPS DD Coalition, NOPA is a part of a coalition of agribusiness trade associations that have been working on the NSPS DD: Grain Elevators for the last decade. In October 2016, EPA's final NSPS package was sent to OMB for review under EO 12866. The revisions would include new emission limits for certain grain elevators; additional testing, monitoring, recordkeeping and reporting requirements; different compliance requirements for periods of startup, shutdown and malfunction; and a new method for calculating emissions from temporary storage facilities. The final rule would apply to grain handling facilities on which construction, modification or reconstruction began after July 9, 2014 - the date the proposed amendments were published in the *Federal Register*. This rule package was not finalized by EPA, and on January 24, 2017, the rule was officially withdrawn from OMB. We are uncertain if this rule is going to be resubmitted to OMB for review or if EPA will no longer pursue revision of NSPS Subpart DD. That said, so as to not subject new grain elevators to these burdens, it is critical that EPA: 1) not finalize the proposed amendments to NSPS Subpart DD; and 2) formally rescind the July 9, 2014 proposed amendments to NSPS Subpart DD. Furthermore, we encourage EPA to look to the possibility of rescinding this NSPS, and other outdated NSPS, as part of a larger Regulatory Reform effort.
- 3) ***EPA's Startup, Shutdown, and Malfunction (SSM) Policy.*** Beginning with the court decision in *Sierra Club v. Johnson*, 551 F.3d 1019 (D.C. Cir. 2008), EPA has required facilities to be in continuous compliance with normal emission and operating limits, without allowing for any deviations due to unforeseen circumstances. If an event occurs that causes the facility to exceed a limit, the facility is at the mercy of the regulatory authority's discretion regarding enforcement for that event. Since this court decision, EPA has rarely allowed for the use of a work practice during the startup and shutdown periods of operation. EPA should look to set work practice standards or set alternative emission limits during periods of SSM, as allowed under sections 112(d)(2) and 112(h) of the Clean Air Act (CAA).
- 4) ***EPA's Risk and Technology Review (RTR) Rules.*** Section 112(f) of the CAA requires EPA to review National Emission Standards for Hazardous Air Pollutants (NESHAP) rules after eight years to evaluate the remaining risk posed by the regulated facilities, and section 112(d)(6) of the CAA requires EPA to review advances in pollution control technologies. EPA has been slowly conducting these RTR rules over the past decade, and faces many more in the next few years. Despite regularly finding low residual risk from various regulated facilities, EPA has regularly pushed for lower emission limits, requiring the installation of expensive new equipment with limited to no demonstrated benefits. EPA should focus its reviews on ensuring that the NESHAP rules are effective, pose little residual risk, and do not impose additional costs on regulated industry without demonstrated benefits.
- 5) ***Federal Response Plans (FRP).*** EPA requires facilities that store over one million gallons of oil to prepare a Federal Response Plan. For the oilseed processing industry, this requirement also applies to vegetable oil, which is one of the primary products of our business. A FRP is required even if the facility has adequate secondary containment for their oil tanks. The FRP requires that regulated facilities have a contract with an oil spill response organization (OSRO) to provide emergency response if needed. Often, this contract requires a retainer be paid to the OSRO based on the amount of oil that the facility

stores. Because these facilities generally have adequate containment, the OSRO's services is rarely needed. In order to provide a timely response to a spill, facilities may be required to buy and maintain a boat to deploy spill-containing booms on a water body. Facilities with a FRP are also required to hold periodic costly drills. Finally, FRPs duplicate requirements in the Spill Prevention Control and Countermeasure (SPCC) plans – in particular, the Emergency Response Action Plan (ERAP). EPA should look to remove duplicative requirements that add burden to regulated facilities. One way for EPA to minimize the burden on vegetable oil producers is to exclude vegetable oil from the definition of "oil" in the FRP, and instead require vegetable oil producers to prepare only SPCC plans.

- 6) ***TSCA Reporting Requirements.*** The Toxic Substances Control Act (TSCA) requires facilities to regularly report the manufacture or use of chemicals in commerce. This requirement also applies to food products that are used for non-food uses. Although these substances are regulated by FDA for human consumption, if the same substance is used for a non-food use, information about its end use, production volumes, and other information is required to be reported. As requested in the the Food Associations' comments, EPA should eliminate the TSCA CDR reporting requirements for food substances already regulated by FDA.
- 7) ***Regional Consistency Requirements.*** On August 3, 2016, EPA finalized revisions to its Regional Consistency regulations to more clearly address the implications of adverse federal court decisions that result from challenges to locally or regionally applicable actions. These revisions introduced a narrow procedural exception under which an EPA Regional office no longer needs to seek Headquarters concurrence to diverge from national policy in geographic areas covered by such an adverse court decision. EPA claimed that the revisions will help to foster overall fairness and predictability regarding the scope and impact of judicial decisions under the Clean Air Act, but in fact, it provides little regulatory certainty to companies that have operations in multiple EPA regions. EPA should reconsider this regulation.
- 8) ***EPA Electronic Reporting Requirements.*** In many new rules, EPA has begun requiring facilities to submit testing data electronically, such as through CEDRI. The goal of these rules is to reduce the paperwork burden; however, this has not yet been accomplished. For many of these rules, the states also need to obtain the test data, and not all states have access to EPA's database. In some cases, EPA requires the submittal of data before the testing companies can reformat their results to comply with EPA's rule, or EPA's database is not yet ready to accept testing data. EPA should work to ensure that all states have access to the same facility data to reduce duplication of effort for the regulated parties, and that the electronic databases and submittal portals are extensively tested before use.
- 9) ***Rulemaking through guidance.*** EPA has frequently issued guidance documents that served as de facto regulations, but these documents never underwent public notice and comment. Many are not even considered final agency actions and therefore can't be challenged. One such example is the 1990 New Source Review Draft Guidance. Even though this document is 27 years old and was never finalized, it still serves as the basis for many NSR permitting decisions. All federal Agencies should follow the proper notice and comment procedures to ensure that the regulations are being interpreted and applied consistently.

Manufacturing Permitting Process

New oilseed processing facilities undergo a lengthy and detailed environmental permitting process. This permitting process is filled with many challenges that can derail a project, including uncertainty in schedule for obtaining a final permit, the requirement to model emissions using programs that cannot account for site-specific inputs, and public input and challenges. Once a project hits a roadblock or is substantially delayed, the project may be scrapped and the accompanying jobs and growth would disappear.

A new or modified oilseed processing facility may need to obtain a preconstruction (Prevention of Significant Deterioration (PSD)/ Nonattainment New Source Review (NNSR)) air permit, a National Pollution Discharge Elimination System (NPDES) wastewater permit, an Army Corps wetlands permit, a state building permit, a state groundwater withdrawal permit, as well as develop numerous plans, including facility response/Spill Prevention Control and Countermeasure (SPCC), Process Safety Management (PSM)/Risk Management Plan (RMP), and Food Safety Modernization Act (FSMA). Furthermore, these facilities may also need to undergo the following reviews: Wetlands Assessments and Surveys, Threatened and Endangered Species and Habitat Assessments and Surveys, Floodplain Assessments and Surveys, Cultural Resources Assessments and Surveys, U.S. Army Corps of Engineers Clearances, and Section 401 State Water Quality Certifications. Once the preconstruction reviews and permits are secured, these facilities then need to obtain operating permits.

A large majority of these permits are regulated under EPA. For most environmental permits, the states have the authority to issue permits, with an EPA review often required. Such permits require dedicated permit staff in each state that are familiar with permitting requirements and facility operations.

For the past few years, states have struggled to balance their budgets, and permit writers have often been eliminated as part of budget cuts, losing experience and knowledge of the applicability of the rules and the industries under permit. At the same time, many states have been trying to welcome new manufacturing facilities and new jobs, resulting in a permit backlog that has not yet been resolved. Facilities will not be built unless permits can be issued in a timely manner.

Typically, the most onerous regulatory review/permitting program for oilseed processing facilities has involved air permitting. Over the past seven years, EPA has tightened several ambient air quality standards while increasing its reliance on modeling to demonstrate attainment and project impacts. For example, in 2010 EPA finalized a one-hour NO_x standard, only to later discover that models are predicting exceedances where monitors demonstrate attainment. At the same time, EPA has been slow to issue guidance to the state permitting agencies and has failed to highlight flexibility states have in drafting permits. As such, many permits have gotten bogged down, lengthening the timeline to permit issuance and increasing the permit backlog at the states.

Some specific examples of technical issues that recent industrial projects have encountered include:

- There is no formal mechanism for the States or the regulated community to implement any changes in the model or methods via EPA guidance or 40 CFR 51 Appendix W. Without changes to the model or methods, states are wed to using the current suite of modeling tools which frequently do not account for site-specific conditions and overestimate projected impacts. An overestimate of projected emission impacts may result in a facility having to install costly, unneeded control technology or a project not moving forward at all.
- Currently approved modeling programs do not adequately represent all facility scenarios. When modeling is compared to actual monitoring data, the model proves to be overly conservative. By having overly conservative models, some facilities have not been able to

demonstrate attainment with the current standards and have been forced to abandon new projects.

- Finally, in many cases EPA has failed to provide direction to the states which are responsible for permitting industrial facilities. Without guidance from EPA, many states are struggling to determine what is acceptable to EPA, and may resist innovative and flexible approaches. The result is that projects may be scrapped, along with any new jobs that would have accompanied the project.

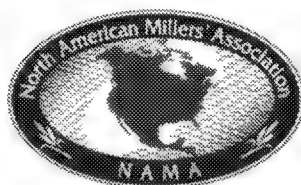
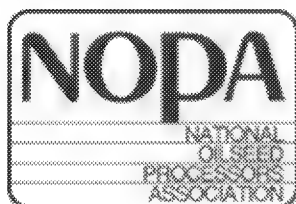
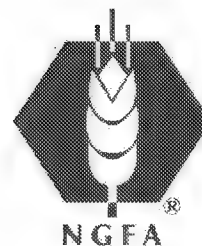
Recently, several NOPA members have announced new facilities or expansion of existing facilities, and have undergone the permitting process. One of the most trying aspects of the permit process is the never-ending uncertainty in the process itself. Any minor comment or correction may result in another full review of the permit application. Each delay in the permit process might result in a changed limit or guidance that must now be addressed in the permit. This would include a new NAAQS, or a ratcheting down of a storm water benchmark. A final permit is rarely final until all appeals are exhausted.

In conclusion, NOPA appreciates this Administration's efforts to relieve some of the regulatory burdens faced by the oilseed processing industry. Thank you in advance for your consideration of NOPA's comments. If you have any questions, or will like to further discuss our comments, please contact me at lgershman@nopa.org or 202-864-4368.

Sincerely,



Lorraine Krupa Gershman, P.E.
Vice President, Regulatory Affairs



May 15, 2017

Via E-Mail Filing in E-Docket No. EPA-HQ-OA-2017-0190

Ms. Samantha K. Dravis
Associate Administrator
Office of Policy
1200 Pennsylvania Avenue, NW
Mail Code 1803A
Washington, DC 20460

Re: Comments to EPA's Regulatory Reform Task Force about the NSPS for Grain Elevators, 40 CFR Part 60, Subpart DD, Urging Prospective Repeal, in Response to 82 Fed. Reg. 17793 (Apr. 13, 2017), Docket No. EPA-HQ-OA-2017-0190

Dear Ms. Dravis:

This statement is submitted on behalf of a coalition of six national trade associations in the agricultural sector, *i.e.*, the NSPS Subpart DD Coalition,¹ that have been working with the Environmental Protection Agency (EPA) since 2009 on its review of, and subsequent proposed amendments to, its New Source Performance Standards (NSPS) for grain elevators [40 CFR Part 60, Subpart DD, pursuant to section 111(b) of the Clean Air Act (CAA), 42 U.S.C. 7411(b)]. EPA's proposed rule appears at 79 Fed. Reg. 39242 (July 14, 2014).

NSPS Subpart DD applies to any "affected facility" constructed or modified after 1978 at certain grain elevators, *i.e.*, those with a permanent storage capacity exceeding 2.5 million

¹ The Coalition includes the Corn Refiners Association, the National Council of Farmer Cooperatives, the National Grain and Feed Association, the National Oilseed Processors Association, the North American Millers' Association, and the USA Rice Federation.

bushels or 1.0 million bushels if located at wheat flour mills, wet or dry corn mills, rice mills or soybean oil extraction plants.

Since issuance of EO 13563 in 2011, our Coalition has petitioned EPA repeatedly to repeal Subpart DD *prospectively* because the NSPS is outdated and unnecessary. In its 2014 rulemaking proposal, the Agency addressed the legitimacy of Subpart DD, but failed to demonstrate adequately that emissions from grain storage facilities pose a significant environmental risk to human health and welfare on a going-forward basis. In our December 2014 comments [copy attached], we argued that this failure means that EPA lacks statutory authority to apply Subpart DD to future events, under not only the CAA, but also the Paperwork Reduction Act (PRA). In March 2016, we made the same point in comments [copy attached] on a then-pending Information Collection Request (ICR) for Subpart DD. That ICR predicted that the instances during 2016-19 of new construction or modification of “affected facilities” at the relevant grain elevators would be zero, thereby undercutting EPA’s unsubstantiated claims to the contrary in its 2014 rulemaking proposal.

In October 2016, EPA’s package taking final action on the 2014 proposal was sent to OMB for review under EO 12866. We have not been shown a copy of the package to review, but EPA staff indicated orally to us at the time that it would include new emission limits for certain grain elevators; additional testing, monitoring, recordkeeping and reporting requirements; different compliance requirements for periods of startup, shutdown and malfunction; and a new method for calculating the contribution of temporary storage facilities to “permanent storage.” The final rule would apply to grain handling facilities on which construction, modification or reconstruction began after July 9, 2014 – the date the proposed amendments were published in the *Federal Register*.

Given that array of potential outcomes, we suspected that the final package might contain or reference data and analyses that came into existence after the close of the comment period (December 22, 2014) – and hence were not open to public comment – and that such materials could be of central importance to some of EPA’s key final decisions. We petitioned EPA and OMB to examine that possibility and, if true, urged that the comment period be reopened. [Copy of petition attached.] On December 14, 2016, the Coalition met with OMB to discuss these concerns. During the cordial meeting, we argued that if the package rebuts our strong arguments submitted during the comment period, then likely it contains enough new data and analysis to trigger an obligation to re-open the comment period.

The final action package was not finalized by EPA and on January 24, 2017, the package was officially withdrawn from OMB. (See: <https://www.reginfo.gov/public/do/eoDetails?rrid=126938>).

At this point in time, we are uncertain if this rule is going to be resubmitted to OMB for review or if EPA no longer will pursue revision of NSPS Subpart DD/DDa. That said, so as not to subject new grain elevators to these unnecessary regulatory burdens, we ask that EPA’s newly-formed Regulatory Reform Task Force recommend the following actions to the Administrator:

- 1) Not finalize the proposed amendments to NSPS Subpart DD; and

- 2) Formally rescind the July 9, 2014 proposed amendments to NSPS Subpart DD. By formally rescinding this rule, EPA would be able to “bank” the costs of this rule to offset the costs of a future rule, as detailed in E.O. 13771 – Reducing Regulations and Controlling Regulatory Costs.

Further, we encourage EPA to examine the possibility of rescinding this NSPS *prospectively* and/or modifying it based upon the Coalition comments submitted in 2014, as part of a larger regulatory reform effort.

Based upon our own extensive comments and the comments of others, and the lack of any comments from non-governmental organizations, we believe that EPA could effectuate such a repeal immediately through final action in the present rulemaking, without going through any additional notice-and-comment rulemaking.

We appreciate the opportunity to provide the Regulatory Reform Task Force with our views on Subpart DD. If you have any questions, please contact the undersigned at jmccluer@ngfa.org.

Sincerely,



Jess McCluer
National Grain and Feed Association
Coalition Chair

Attachment

cc (via email): Jeff Knight (Coalition counsel)
 Josh Lewis (EPA)
 William Schrock (EPA)
 Peter Wyckoff (Coalition counsel)

Message

From: Stephen Aaron [saaron@mercuryllc.com]
Sent: 5/10/2017 7:10:31 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: Strange Sequence of Events

Mandy, just wanted to check back in with you and see if you had a couple quick minutes for us to talk prior to Monday.

Didn't see you last night at the party??

Talk soon.

.....
Mercury.

Stephen Aaron
Senior Vice President
300 Tingey Street SE | Suite 202
Washington, DC | 20003
www.mercuryllc.com

> On May 8, 2017, at 4:45 PM, Stephen Aaron <saaron@mercuryllc.com> wrote:
>
> <Scott Pruitt Letter.pdf>
> <John D Dunlap Bio.docx>

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FILED

**United States Court of Appeals
Tenth Circuit**

UNITED STATES COURT OF APPEALS

FOR THE TENTH CIRCUIT

September 9, 2014

**Elisabeth A. Shumaker
Clerk of Court**

STATE OF WYOMING,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY; GINA
MCCARTHY, in her official capacity as
Administrator of the U.S. Environmental
Protection Agency,

Respondents.

POWDER RIVER BASIN RESOURCE
COUNCIL; NATIONAL PARKS
CONSERVATION ASSOCIATION;
SIERRA CLUB; WYOMING
OUTDOOR COUNCIL; BASIN
ELECTRIC POWER COOPERATIVE;
PACIFICORP; AMERICAN
COALITION FOR CLEAN COAL
ELECTRICITY; ARCH COAL, INC.,

Intervenors.

POWDER RIVER BASIN RESOURCE
COUNCIL; NATIONAL PARKS
CONSERVATION ASSOCIATION;
SIERRA CLUB,

Petitioners,

No. 14-9529
(No. EPA-R08-OAR-2012-0026)

v.

No. 14-9530

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY; GINA
MCCARTHY, Administrator, United
States Environmental Protection Agency,

Respondents.

STATE OF WYOMING; BASIN
ELECTRIC POWER COOPERATIVE;
PACIFICORP; AMERICAN
COALITION FOR CLEAN COAL
ELECTRICITY; ARCH COAL, INC.;
IDAHO POWER COMPANY,

Intervenors.

BASIN ELECTRIC POWER
COOPERATIVE,

Petitioner,

v.

No. 14-9533

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY; GINA
MCCARTHY, Administrator, United
States Environmental Protection Agency,

Respondents.

POWDER RIVER BASIN RESOURCE
COUNCIL; NATIONAL PARKS
CONSERVATION ASSOCIATION;
SIERRA CLUB; WYOMING

OUTDOOR COUNCIL; PACIFICORP,

Intervenors.

PACIFICORP,

Petitioner,

v.

No. 14-9534

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY; GINA
MCCARTHY, Administrator, United
States Environmental Protection Agency,

Respondents.

POWDER RIVER BASIN RESOURCE
COUNCIL; NATIONAL PARKS
CONSERVATION ALLIANCE;
SIERRA CLUB; WYOMING
OUTDOOR COUNCIL; BASIN
ELECTRIC POWER COOPERATIVE,

Intervenors.

ORDER

Before **KELLY** and **BACHARACH**, Circuit Judges.

In January 2014, the United States Environmental Protection Agency (EPA) issued a final rule regarding Wyoming's regional haze state implementation plan (SIP). The EPA approved Wyoming's Best Available Retrofit Technology (BART)

determinations for ten coal-fired electric generating units, and approved Wyoming's plan for facilities subject to regional haze requirements that are not power plants.

The EPA also approved Wyoming's BART determinations with respect to the control of particulate matter at the five units at issue in these appeals.

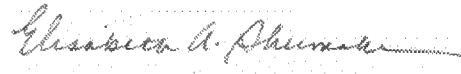
The EPA disapproved Wyoming's SIP regarding its BART determinations for nitrogen oxide emissions at Laramie River Station Units 1-3, Dave Johnston Unit 3, and Wyodak Unit 1. The EPA issued its own federal implementation plan (FIP) for these five units, which requires them to install an additional pollution control for nitrogen oxide emissions by March 2019.

Wyoming, Basin Electric Power Cooperative, and PacifiCorp filed motions for a stay pending appeal. Wyoming seeks a stay of that portion of the EPA's final rule disapproving Wyoming's SIP with respect to the BART determinations for the five plants at issue in this appeal. Basin Electric and PacifiCorp seek a stay of that portion of the EPA's final rule issuing an FIP requiring the installation of an additional pollution control. They also request that the March 2019 deadline for complying with the FIP be extended for Laramie River Station Units 1-3, and Wyodak Unit 1 for the duration of time that the stay is in effect. The EPA and the Intervenor (Powder River Basin Resource Council, National Parks Conservation Association, Sierra Club, and Wyoming Outdoor Council) filed oppositions to the stay motions. Wyoming, Basin Electric, and PacifiCorp filed replies in support of their motions.

In deciding whether to grant a stay pending appeal, we consider: (1) the moving party's likelihood of success on appeal; (2) whether the moving party will suffer irreparable injury absent a stay; (3) whether the issuance of the stay will injure the other parties; and (4) where the public interest lies. *See* 10th Cir. R. 8.1.

Upon consideration of the stay factors, we conclude that a stay pending appeal is warranted in these cases. Accordingly, we grant Wyoming, Basin Electric, and PacifiCorp's motions for stay. Basin Electric and PacifiCorp request that the deadline for compliance be extended beyond March 2019 for the duration of the stay. We grant this request for the four units addressed in PacifiCorp and Basin Electric's stay motions (Laramie River Station Units 1-3 and Wyodak Unit 1).

Entered for the Court



ELISABETH A. SHUMAKER, Clerk

FILED

**United States Court of Appeals
Tenth Circuit**

UNITED STATES COURT OF APPEALS

FOR THE TENTH CIRCUIT

May 17, 2017

**Elisabeth A. Shumaker
Clerk of Court**

STATE OF WYOMING,

Petitioner,

v.

No. 14-9529

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, et al.,

Respondents.

POWDER RIVER BASIN RESOURCE
COUNCIL, et al.,

Intervenors.

WYOMING COUNTY
COMMISSIONERS ASSOCIATION, et
al.,

Amici Curiae.

POWDER RIVER BASIN RESOURCE
COUNCIL, et al.,

Petitioners,

v.

No. 14-9530

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, et al.,

Respondents.

STATE OF WYOMING, et al.,

Intervenors.

WYOMING COUNTY
COMMISSIONERS ASSOCIATION, et
al.,

Amici Curiae.

BASIN ELECTRIC POWER
COOPERATIVE,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, et al.,

Respondents.

POWDER RIVER BASIN RESOURCE
COUNCIL, et al.,

Intervenors.

WYOMING COUNTY
COMMISSIONERS ASSOCIATION, et
al.,

Amici Curiae.

No. 14-9533

PACIFICORP,

Petitioner,

v.

No. 14-9534

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, et al.,

Respondents.

POWDER RIVER BASIN RESOURCE
COUNCIL, et al.,

Intervenors.

WYOMING COUNTY
COMMISSIONERS ASSOCIATION, et
al.,

Amici Curiae.

ORDER

Before **KELLY** and **BACHARACH**, Circuit Judges.

These four consolidated petitions for review are before us on (1) a “Motion to Hold in Abeyance *Basin Electric Power Cooperative v. EPA*, Case No. 14-9533, and Part of *State of Wyoming v. EPA*, Case No. 14-9529,” and on (2) a “Motion by the State of Wyoming, Basin Electric Power Cooperative, and PacifiCorp to Abate Proceedings Pending Settlement Process.”

In the first motion, the State of Wyoming, Basin Electric, and the EPA (the “settling parties”) move to abate Basin Electric’s entire petition for review (No. 14-9533), and the claims in Wyoming’s petition for review (No. 14-9529) that are specific to the Laramie River units due to a tentative settlement pertaining to Basin Electric’s Laramie River facility. In the second motion, the State of Wyoming, Basin Electric, and PacifiCorp (three of the four petitioners) move to abate all four petitions for review pending final action by the EPA on the tentative settlement.

None of the parties to these consolidated proceedings opposes abating No. 14-9533 and the affected claims in No. 14-9529. However, the Conservation Organizations (petitioners in No. 14-9530 and intervenor-petitioners in the other three cases), do oppose using this partial abatement as justification for abating all four petitions for review and vigorously oppose the motion to abate all proceedings.

Upon careful consideration of the motions to abate and the Conservation Organizations’ opposition, both motions are granted. All proceedings in these consolidated cases are abated.

Within 180 days from the date of this order, or sooner if significant developments occur that affect this abatement, the settling parties shall file a written report advising this

court as to the status of the implementation of the settlement agreement.

Entered for the Court
ELISABETH A. SHUMAKER, Clerk

A handwritten signature in cursive script, appearing to read "Jane K. Castro", with a horizontal line extending from the end of the signature.

by: Jane K. Castro
Counsel to the Clerk

IN THE UNITED STATES COURT OF APPEALS
FOR THE TENTH CIRCUIT

STATE OF UTAH, on behalf of the Utah
Department of Environmental Quality,
Division of Air Quality,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY and GINA
McCARTHY, Administrator, United
States Environmental Protection Agency,

Respondents.

CARBON COUNTY, UTAH et al.,

Petitioners-Intervenors,

and

HEAL UTAH et al.,

Respondents-Intervenors.

Case No. 16-9541

PACIFICORP,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY et al.,

Respondents.

Case No. 16-9542

CARBON COUNTY, UTAH et al.,

Petitioners-Intervenors,

and

HEAL UTAH et al.,

Respondents-Intervenors.

UTAH ASSOCIATED MUNICIPAL
POWER SYSTEMS,

Petitioner,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY et al.,

Respondents.

Case No. 16-9543

CARBON COUNTY, UTAH et al.,

Petitioners-Intervenors,

and

HEAL UTAH et al.,

Respondents-Intervenors.

DESERET GENERATION &
TRANSMISSION CO-OPERATIVE,

Petitioner,

v.

Case No. 16-9545

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY et al.,

Respondents.

CARBON COUNTY, UTAH et al.,

Petitioners-Intervenors,

and

HEAL UTAH et al.,

Respondents-Intervenors.

PACIFICORP'S MOTION FOR STAY

E. Blaine Rawson
Ray Quinney & Nebeker, P.C.
36 South State Street, Suite 1400
Salt Lake City, UT 84111
brawson@rqn.com
(801) 532-1500

Michael G. Jenkins
Assistant General Counsel
PacifiCorp Energy
1407 North Temple, Suite 310
Salt Lake City, Utah 84116
michael.jenkins@pacificorp.com
(801) 220-2233

Attorneys for Petitioner PacifiCorp

RULE 26.1 CORPORATE DISCLOSURE STATEMENT

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure,
PacifiCorp submits the following statement:

PacifiCorp's common stock is 100% owned by PPW Holdings, LLC, a Delaware limited liability company, which is, in turn, wholly owned by Berkshire Hathaway Energy Company. Berkshire Hathaway Energy Company is a majority-owned subsidiary of Berkshire Hathaway Inc., a publicly held corporation. No publicly held company directly owns ten percent (10%) or more of PacifiCorp's common stock.

DATED this 28th day of October, 2016.

/s/ E. Blaine Rawson

E. Blaine Rawson
Ray Quinney & Nebeker, P.C.
36 South State Street, Suite 1400
Salt Lake City, UT 84111
brawson@rqn.com
(801) 532-1500

/s/ Michael G. Jenkins

Michael G. Jenkins
Assistant General Counsel
PacifiCorp Energy
1407 North Temple, Suite 310
Salt Lake City, Utah 84116
michael.jenkins@pacificorp.com
(801) 220-2233

Attorneys for Petitioner PacifiCorp

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

BART	Best Available Retrofit Technology
CAA	Clean Air Act
Class I Areas	Certain identified national parks and wilderness areas
EGU	Electrical Generating Unit
EPA	Environmental Protection Agency
FIP	Federal Implementation Plan
LNB/SOFA	Low-NO _x Burners with Separated Overfire Air
NO _x	Nitrogen Oxide
PM	Particulate Matter
SCR	Selective Catalytic Reduction
SIP	State Implementation Plan
SO ₂	Sulphur Dioxide

INTRODUCTION

Respondent Environmental Protection Agency (“EPA”) illegally ordered the installation of more than \$700 million¹ in pollution control equipment (known as Selective Catalytic Reduction equipment, or “SCR”) at PacifiCorp’s Hunter (Units 1 and 2) and Huntington (Units 1 and 2) coal-fired power plants (“Utah BART Units”). EPA’s order takes the form of a federal implementation plan (“FIP”)² that unlawfully re-defines the Clean Air Act’s (“CAA”) regional haze program as applied to the Utah BART Units, including the best available retrofit technology (“BART”) and BART Alternative requirements. Before EPA issued the FIP, the State of Utah submitted to EPA for review—as required under the CAA—a state implementation plan (“SIP”) that included a lawful BART Alternative under the CAA. The Utah SIP BART Alternative provides better visibility improvements at

¹ EPA claims total capital costs of \$517.4 million for installation of SCRs at the Utah BART Units. 81 Fed. Reg. at 43903. PacifiCorp’s professionally estimated costs exceed \$700 million. *See* PacifiCorp Comments (Exhibit A), at 1-2 and Attachment 5.

² The final rule was published on July 5, 2016, and is titled “Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze,” 81 Fed. Reg. 43894 (July 5, 2016) (“Final Rule”) (Exhibit B). References herein to the Final Rule refer to both EPA’s issuance of the FIP and disapproval of the SIP.

a lower cost without the negative economic and environmental consequences of EPA's FIP. Yet, EPA rejected Utah's BART Alternative and issued the FIP.

EPA's FIP will require PacifiCorp to incur significant expenses in the near future, which cannot be recouped from EPA. Therefore, PacifiCorp seeks a stay of part of EPA's FIP, pursuant to Federal Rule of Appellate Procedure 18 and 5 U.S.C. §705, pending judicial review. To have any practical effect, PacifiCorp requests that the stay result in a day-for-day extension of the compliance deadline identified in the FIP.

A stay is appropriate because: (1) EPA's illegal FIP will have an immediate and irreparable impact on PacifiCorp due to the cost and impact of the four SCR projects at the Utah BART Units, and PacifiCorp has no monetary recourse against EPA if the FIP is reversed; (2) PacifiCorp is likely to prevail on the merits because EPA illegally refused to consider the comparative costs and environmental impacts between Utah's BART Alternative and SCR controls; EPA illegally refused to correctly account for control equipment already installed on the Utah BART Units; and EPA ignored, and acted contrary to, evidence and information before the agency; (3) the public interest and balance of harms favor a stay due to Utah's and PacifiCorp's significant steps towards meeting Congress' 2064 natural visibility under the CAA's regional haze program. This court granted a stay in

similar circumstances for a regional haze FIP in Wyoming. *See* Stay Order, *Wyoming v. EPA*, No. 14-9529 (10th Cir. Sept. 9, 2014).

EPA and Respondent-Intervenors have indicated that they oppose PacifiCorp's motion to stay. All other parties to the appeal support the motion to stay.

REQUEST FOR STAY BEFORE AGENCY

Prior to filing this Motion, PacifiCorp submitted to EPA a petition for reconsideration ("Petition for Reconsideration") and request for an administrative stay of the FIP.³ Although the Final Rule is fatally defective, EPA has taken no action on PacifiCorp's request for stay.

STATEMENT OF JURISDICTION

EPA had jurisdiction to review Utah's SIP, and to issue the FIP, under 42 U.S.C. §7410. This Court has jurisdiction to review EPA's decisions on the Final Rule (including disapproval of the SIP and issuance of the FIP) under 42 U.S.C. §7607(b)(1), and this Court has authority to grant a stay of EPA's FIP under 5 U.S.C. §705.

³ *See* PacifiCorp's Request for Reconsideration and Request for Administrative Stay of EPA's Final Rule ("Admin. Stay Request") (Sept. 2, 2016) (Exhibit C).

BACKGROUND

I. CAA and Regional Haze Program

Under the CAA's regional haze program, Congress empowered states to create plans, known as SIPs, to address regional haze at national parks and wilderness areas ("Class I Areas"), with the goal of preserving and restoring natural visibility background conditions by the year 2064. 42 U.S.C.

§§7491(a)(1); 40 C.F.R. § 51.308(d)(i)(B). These SIPs are based on each state's unique analyses of the appropriate environmental controls and emission limits (including BART controls and limits) necessary to make statutorily-defined "reasonable progress" within the applicable Class I Areas. *See* 42 U.S.C.

§7491(g)(1). After states complete an extensive rule-making process to create the SIPs, they submit their SIPs to EPA for review.

Congress gave EPA authority to create nationwide regulations for the regional haze program and to review the SIPs for compliance with all "applicable requirements." 42 U.S.C. §§7491(b), 7410(k)(3). And if the SIPs do meet the "applicable requirements," EPA is required by law to approve the SIP, even if EPA would prefer a different plan. *See* 42 U.S.C. §7410(k)(3); *see also Train v. Nat. Res. Def. Council, Inc.*, 421 U.S. 60, 79 (1975).

EPA promulgated the current regional haze regulations in 2005 ("RH Rules"). 70 Fed. Reg. 39104 (July 6, 2005), codified at 40 C.F.R. Part 51,

subpart P. The RH Rules provide two pathways to address the CAA's BART requirements: (1) a case-by-case BART determination under the provisions of 40 C.F.R. §51.308(e)(1) (analyzing the five statutory factors)⁴ or (2) an alternative to BART under the provisions of 40 C.F.R. §51.308(e)(2), which must achieve greater statutorily-defined "reasonable progress." States have the discretion to pursue either pathway. *Id.* Here, Utah chose a BART Alternative, but EPA rejected this approach and substituted its own five-factor BART analyses.

II. PacifiCorp's Operations in Utah

PacifiCorp, which operates in Utah under the business name Rocky Mountain Power, supplies electricity to more than 1.8 million residential and business customers in the state of Utah and five other western states. PacifiCorp owns, in majority or whole, and operates all four Utah BART Units.⁵ The Utah BART Units are the only sources in Utah subject to the CAA's BART requirements. PacifiCorp also owns and operates a third unit at the Hunter plant that is not BART-eligible. It also owns the former Carbon plant, which also was not BART-eligible and which closed in 2015. As allowed by the CAA, the State of Utah required emission reductions in its SIP at Hunter Unit 3 and the Carbon plant as part of Utah's BART Alternative, which also included nitrogen oxide

⁴ EPA issued the "BART Guidelines" in Appendix Y of 40 C.F.R. Part 51 to assist with evaluating and analyzing the five BART factors.

(“NO_x”) reductions at the Utah BART Units. *See* Declaration of Chad Teply (“Teply Decl.”, Exhibit D) ¶¶ 5-9, 11-13, 17.

III. NO_x BART History of the Utah BART Units

The State of Utah submitted timely SIPs in 2003 and 2008 to EPA, but EPA repeatedly failed to approve or disapprove these SIPs within the deadlines established in the CAA. *See* 42 U.S.C. §7410(k)(1)(B) and (k)(2). The State of Utah’s 2008 SIP included BART determinations for NO_x for the Utah BART Units, and became state law in Utah pursuant to the CAA-required state rulemaking process. Hence, PacifiCorp was legally required to install the 2008 SIP-required NO_x BART controls—low NO_x burners and separated over-fire air (“LNB/SOFA”)—on the Utah BART Units, which it did from 2006-2014. *See* Teply Decl. ¶¶ 11-13. These 2008 SIP NO_x Controls reduced NO_x emissions at the Utah BART Units by approximately 11,000 tons annually, at a capital cost of approximately \$40 million. *Id.*⁶

⁵ Deseret Generation & Transmission Cooperative, Utah Associated Municipal Power Systems, and Utah Municipal Power Agency are co-owners of, and receive a portion of the electrical output from, affected units at the Hunter power plant. These entities and their customers also will be impacted by the Final Rule. The Huntington power plant is wholly owned and operated by PacifiCorp. All of the co-owners have either intervened or filed independent petitions for review.

⁶ The 2008 SIP also required the installation of equipment to reduce particulate matter (“PM”) and SO₂ emissions. PacifiCorp installed this equipment at the Utah BART Units during the same 2006 – 2014 timeframe at the total cost of

Utah submitted additional SIP revisions focused on sulfur dioxide (“SO₂”) emission issues to EPA in 2010 and 2011. The 2010 revisions clarified the NO_x BART determinations without making substantive changes, and the 2011 submittal contained nothing new related to NO_x BART. In the interim, EPA settled a lawsuit that required EPA to take action on the 2008 SIP by April 30, 2012. *Wildearth Guardians v. EPA*, No. 10-01218 (D. Colo. Jan. 31, 2011) (order entering consent decree). Acting to meet this deadline, EPA disapproved the part of Utah’s 2008 SIP containing the BART determinations for NO_x and PM, while approving an SO₂ BART Alternative (the SO₂ backstop trading program). 77 Fed. Reg. 74355 (Dec. 14, 2012). EPA did not issue a FIP for NO_x and PM BART in 2012, but instead encouraged Utah to propose a different solution in the form of a new SIP revision. *See* Reply Decl. ¶ 15.

Utah did exactly as requested, working collaboratively with EPA to submit a revised SIP in 2015. Utah’s revised 2015 SIP included extensive analyses, using nine different “reasonable progress” metrics, eight of which supported a BART Alternative for NO_x that would achieve greater statutorily-defined “reasonable progress” than the SCR BART option.

However, despite EPA’s involvement with Utah in development of the NO_x BART Alternative, EPA changed course and issued a contradictory, bifurcated

approximately \$515 million, resulting in the reduction of approximately 12,700 annual tons of SO₂ emissions. *See* Reply Decl. ¶14.

proposed rule that simultaneously proposed approving the BART Alternative, but also proposed disapproving the BART Alternative based on the exact same information. 81 Fed. Reg. 2004 (Jan. 14, 2016) (“Proposed Rule”). In one part of the Proposed Rule, EPA proposed to determine that Utah committed errors in its weight-of-evidence analysis for the BART Alternative that EPA had never before identified, while the other part of the Proposed Rule agreed with Utah’s weight-of-evidence determination.⁷ *See generally id.*

After a public comment period in which PacifiCorp, Utah, and others provided voluminous evidence to support the BART Alternative, while seriously questioning the lawfulness of EPA’s proposed FIP, EPA nonetheless issued the FIP and rejected Utah’s NO_x BART Alternative portion of the SIP. *See, e.g.*, 81 Fed. Reg. 43894, 43909, 43911-12. In so doing, EPA rejected as irrelevant or improper numerous important metrics that Utah had painstakingly analyzed and relied on in support of the BART Alternative. EPA myopically focused instead on a single metric evaluated by Utah to issue the FIP, despite EPA’s own estimates that its FIP (SCR at all four units) would result in an average incremental visibility improvement (over the BART Alternative) of a miniscule 0.14 deciviews

⁷ EPA collaborated with the State of Utah throughout the development of the BART Alternative for NO_x and submitted generally-supportive comments (with no indication of any disagreement about the “weight of evidence” test or with any metric used by Utah) during the state rulemaking phase. *See Utah’s Motion for Stay, Addendum 9.* EPA’s dramatic course change remains unexplained.

(approximately one-seventh of what is discernible to the human eye) **at a cost of over half-a-billion dollars more** than the BART Alternative. 81 Fed. Reg. at 43898-99. To reach this shaky conclusion, EPA illegally ignored or discounted the other eight separate metrics that Utah determined, on balance, would lead to greater “reasonable progress” under the BART Alternative. A stay should be granted until this Court can order EPA to correct its actions.

STANDARD OF REVIEW

The Tenth Circuit applies the preliminary injunction standard in deciding motions to stay agency action. *See generally Assoc. Sec. Corp. v. SEC*, 283 F.2d 773, 774-75 (10th Cir. 1960). “A plaintiff seeking a preliminary injunction must establish that he is likely to succeed on the merits, that he is likely to suffer irreparable harm in the absence of preliminary relief, that the balance of equities tips in his favor, and that an injunction is in the public interest.” *Winter v. Natural Res. Def. Council*, 555 U.S. 7, 20 (2008); *see also RoDa Drilling Co. v. Siegal*, 552 F.3d 1203, 1208 (10th Cir. 2009).⁸ For the reasons described below, PacifiCorp satisfies each of the stay factors.

⁸ The Tenth Circuit has adopted a modified requirement as to the likelihood of success, allowing a lesser showing on the merits where the other factors are strongly demonstrated. *See O Centro Espirita Beneficiente Uniao Do Vegetal v. Ashcroft*, 389 F.3d 973, 1002 (10th Cir. 2004).

STATEMENT OF ISSUES

This Court should grant the requested stay because (1) PacifiCorp's challenges are based on sound legal principles and are likely to succeed on the merits, (2) a stay is necessary to prevent irreparable harm to PacifiCorp and its customers, (3) a stay is in the public interest, and (4) no significant harm will result to either EPA, the affected Class I areas or the public from a stay—particularly because many of the emission reductions and resulting visibility improvements from the Utah BART Alternative already are in place.

ARGUMENT

I. PacifiCorp Is Likely to Succeed on the Merits

As explained below, EPA's FIP should be stayed because the Final Rule, including EPA's rejection of the BART Alternative, is flawed in several critical respects. PacifiCorp raised these issues, and more, with EPA in a Request for Reconsideration and Administrative Stay, which EPA has ignored. *See Admin. Stay Request*. As demonstrated by the motions to stay filed by other petitioners and intervenors, EPA made numerous legal errors (more than can be addressed in one motion) in the Final Rule. PacifiCorp adopts the "merits" arguments of the other motions to stay.

A. EPA failed to consider statutorily-required cost and energy/environmental impacts when rejecting Utah's BART Alternative.

When EPA compared the “reasonable progress” from Utah’s BART Alternative to the SCR BART Benchmark (EPA’s preferred option) as required by the Regional Haze Program, 40 C.F.R. §51.308(e)(2), EPA purposely ignored the hundreds of millions of dollars difference in capital and operating costs.⁹ EPA also knowingly ignored the comparative energy and environmental benefits¹⁰ of the BART Alternative. In so doing, EPA violated the clear language of the regional haze statutes, 42 U.S.C. §§7491 and 7492, the RH Rules, and EPA’s specific guidance relating to BART Alternatives, 71 Fed. Reg. 60612 (Oct. 13, 2006) (“BART Alternative Rule”).

The ultimate measure for a BART Alternative is whether or not it results in greater “reasonable progress” than BART. 40 C.F.R. §51.308(e)(2). In the regional haze statutes, Congress explicitly required that **“costs of compliance”** and **“the energy and nonair quality environmental impacts of compliance”** **“shall**

⁹ EPA claims the cost difference of at least \$500 million (PacifiCorp’s estimates are over \$700 million) had no “direct bearing on whether the BART Alternative achieves greater reasonable progress” and was not “material,” claiming instead that EPA could focus only on “relative visibility benefits.” 81 Fed. Reg. at 43901.

¹⁰ EPA incorrectly found that the comparative energy and non-air quality environmental benefits of the BART Alternative “do not have direct bearing on whether the BART Alternative achieves greater reasonable progress” and are “not material.” 81 Fed. Reg. 43900.

be taken into consideration” when “determining reasonable progress.” 42

U.S.C. §7491(g)(1) (emphasis added).¹¹ This congressional mandate cannot be any clearer.

EPA itself acknowledged this in the preamble to the final BART Alternative Rule: “The EPA continues to support State efforts to develop . . . alternative strategies to fulfill the goals of the CAA. . . . *and to do so in the most cost-effective manner practicable.*” 71 Fed. Reg. at 60614 (emphasis added). Rather than rely on these statutory and regulatory requirements, however, EPA instead improperly redefined “reasonable progress” to mean “greater visibility improvement.” *See, e.g.*, 81 Fed. Reg. at 43900. EPA’s self-crafted, and impermissibly narrower, “greater visibility improvement” standard illegally supplants the “reasonable progress” statutory standard, which clearly requires consideration of costs and environmental/energy impacts.

In another recent air quality case, the U.S. Supreme Court rejected EPA’s similar attempts to ignore cost through a skewed statutory reading. In a statute where cost was less clearly articulated, the Court found, “EPA strayed far beyond those bounds when it read §7412(n)(1) to mean that it could ignore cost when

¹¹ This Court also has confirmed the requirement to consider both costs and energy/environmental impacts to determine reasonable progress when evaluating a BART Alternative. *WildEarth Guardians v. EPA*, 770 F.3d 919, 924 note 3 (10th Cir. 2014) (quoting 42 U.S.C. §7491(a)(4)); *see also* 40 C.F.R. § 51.308(d)(1)(i)(A).

deciding whether to regulate power plants.” *Michigan v. EPA*, 135 S. Ct. 2699, 2707 (2015). Here, the plain language of the applicable statute requires consideration of comparative cost, energy, and certain environmental impacts, which EPA refused to do. PacifiCorp will prevail on the merits for this issue.

B. EPA’s failure to account for “existing pollution control equipment” in its BART analysis for the FIP violates the CAA.

EPA is required to analyze all five BART factors when adopting a BART determination through a FIP. EPA’s failure to do so is illegal. 42 U.S.C. §7491(g)(2); *North Dakota v. EPA*, 730 F.3d 750, 762-64 (8th Cir. 2013). When EPA conducted its BART analyses for the Utah BART Units, particularly its cost and visibility analyses, it did not properly consider the statutory “existing equipment” factor.¹² LNB/SOFA were installed at each of the Utah BART Units from 2006-2014, a fact that EPA openly acknowledges. *See, e.g.*, 81 Fed. Reg. at 2023. However, EPA ignore the existing LNB/SOFA when establishing the baseline emissions for the required cost effectiveness and visibility improvement analyses.¹³ As a result, EPA’s projected visibility improvements resulting from

¹² EPA admitted that its “baseline emissions,” a key component of the BART cost and visibility analyses, “predates the installation of the LNB/SOFA at the four BART Units.” 81 Fed. Reg. at 43904.

¹³ EPA requires that the “*baseline emissions* rate should represent a *realistic* depiction of anticipated annual emissions for the source. . . . *based upon actual emissions* from a baseline period.” 40 C.F.R. App. Y § IV.D.4.d (emphasis added).

SCR are inflated and the average cost-effectiveness of SCR is artificially enhanced. *See, e.g.* 81 Fed. Reg. at 43903-07, Tables 1-7.

The regional haze statute requires consideration of “*any* existing pollution control technology in use at the source” to establish control equipment as BART. 42 U.S.C. §7491(g)(2) (emphasis added).¹⁴ EPA has considered the same “existing equipment” (LNB/SOFA) in baseline emissions for BART determinations for other states (including at some of PacifiCorp’s other facilities). *See* 81 Fed. Reg. at 43905 (“Colorado considered these existing controls as given and included them in the baseline emissions”) and 43906 (“EPA included the existing controls, LNB and OFA, in the baseline for the three units [in Arizona]”). And the Eighth Circuit Court of Appeals overturned a FIP where EPA tried to avoid consideration of “any” existing equipment based on the purpose for which the equipment was installed. *North Dakota*, 730 F.3d at 764. Similar to *North Dakota*, here EPA has refused to consider “any existing equipment” as part of the baseline emissions analysis because “they were installed pursuant to a proposed BART determination.” 81 Fed. Reg. 43905. This Court has stayed a regional haze FIP in the past when EPA failed to properly account for “existing” control equipment.

¹⁴ The five BART factors are: (i) the costs of compliance; (ii) the energy and non-air quality environmental impacts of compliance; (iii) *any existing pollution control technology in use at the source*; (iv) the remaining useful life of the source; and (v) the degree of improvement in visibility that may be expected as a result of such technology. 42 U.S.C. §7491(g)(2) (emphasis added).

See Stay Order, *Wyoming v. EPA*, No. 14-9529. This Court should do so again.

PacifiCorp should prevail on the merits on this issue.

C. EPA's FIP is illegal because it does not – and never can – ensure BART implementation by 2018 as required by law.

EPA's FIP requires installation of the BART controls by August 4, 2021. 81 Fed. Reg. at 43924. Because EPA's FIP does not require BART installation during the planning period covered by the SIP (through 2018), it is unlawful. The Fifth Circuit Court of Appeals recently granted a stay of an EPA FIP in part based upon EPA's failure to ensure controls were installed within the initial planning period of 2007-2018. *Texas v. EPA*, 829 F.3d 405, 429-30 (5th Cir. 2016). Because EPA's FIP for Utah does not comply with the same requirements to install BART before 2018,¹⁵ the FIP is invalid. The State of Utah has addressed this argument in its Motion, and PacifiCorp hereby incorporates that argument.¹⁶

D. EPA's explanation for rejecting Utah's BART Alternative runs counter to the evidence before the agency.

EPA uses technical camouflage to hide the fact that EPA's rejection of the BART Alternative runs counter to the legitimate evidence relied on by Utah. An agency action is arbitrary and capricious, and illegal, if it "runs counter to the evidence before the agency." *Motor Vehicle Mfrs. Ass'n. v. State Farm Mut. Auto*

¹⁵ The four SCRs required by EPA's FIP cannot practicably be constructed prior to the end of 2018 due to extensive, necessary processes (engineering, regulatory review, construction, etc.). See Teply Declaration ¶ 27.

¹⁶ PacifiCorp incorporates Utah's entire Motion to Stay by this reference.

Ins. Co., 463 U.S. 29, 43 (1983); *see also Motor Vehicle Mfrs. Ass’n. v. EPA*, 768 F.2d 385, 389 n.6 (D.C. Cir. 1985). By ignoring and distorting a substantial amount of the evidence Utah relied on to support the BART Alternative (all submitted to EPA with the SIP), EPA’s rejection of the Utah BART Alternative runs counter to the evidence before it.

Two examples, among many, illustrate how EPA used the technical nature of these regional haze determinations to disguise its selective consideration of the evidence. First, EPA rejected one critical metric supporting the BART Alternative by feigning ignorance of the evidence that SO₂ emissions have the greatest visibility impact for Class I areas affected by the Utah BART Units. Second, when analyzing the benefits of the BART Alternative, EPA knowingly ignored evidence of “early and on-going” emission reductions.

i. EPA ignored relevant SO₂ emission reductions relied upon by Utah in approving the BART Alternative.

Utah found the “aggregate annual emissions” metric supported the BART Alternative. 81 Fed. Reg. at 43898. This metric compares the total tonnage reductions of visibility-impairing pollutants (SO₂, NO_x, and PM). Utah’s analysis determined that the BART Alternative’s relatively small comparative NO_x emissions increase would be offset by much greater SO₂ and PM emissions reductions. *Id.* EPA admitted that this metric is a “relevant concept” that relates to “visibility impacts,” *id.*, but EPA rejected the metric, claiming it lacked sufficient

evidence that the SO₂ and PM emissions reductions counted in the “aggregate emissions reduction” metric would have the same, or greater, visibility impact than the NO_x emissions. *Id.* at 43910.

EPA’s rejection of this metric is contrary to mountains of evidence and EPA’s own actions. Numerous studies and government reports in the record show SO₂ emissions actually have a greater visibility impact than emissions of NO_x emissions at the Class I areas impacted by the Utah BART Units, and thus a reduction in SO₂ emissions results in a greater visibility improvement than a similar reduction in NO_x emissions. *See, e.g.*, Western Regional Air Partnership, Regional Haze Rule Reasonable Progress Report Support Document, State and Class I Area Summaries (Doc. No. EPA-R08-OAR-2015-0463-0200), at 6-11 through 6-16 (compare “aerosol extinction” numbers for ammonium sulfate and ammonium nitrate); Utah Div. of Air Quality, Progress Report for Utah’s State Implementation Plan for Regional Haze (Utah Progress Report), May 18, 2015, at F-26 through F-28 (relevant excerpts of both documents are attached as Exhibit E). Due to the demonstrated greater visibility improvements associated with SO₂ emission reductions, EPA has allowed the use of SO₂ emissions reductions as surrogates for NO_x reductions for other BART Alternatives. *See, e.g.*, 80 Fed Reg. 19220, 19221 (Feb. 27, 2015) (“the Alternative would result in greater NO_x emissions, but lower emissions of SO₂ and PM₁₀”)(Arizona). In the Final Rule,

and consistent with the evidence, EPA admitted that human-caused “visibility impairment on the Colorado Plateau is dominated by sulfates [SO₂]” and concurred that “sulfate [SO₂] is the largest contributor to visibility impairment at the affected Class I areas.” 81 Fed. Reg. at 43900.

Despite this evidence and its own concessions, EPA refuses to recognize that SO₂ emissions reductions under the BART Alternative have the same, or greater, visibility benefits as NO_x emissions reductions because of “differences in visibility impacts and complex interactions between pollutants.” 81 Fed. Reg. at 42898. EPA’s position is nonsensical and contrary to the evidence. If SO₂ emissions are the “largest contributor to visibility impairment,” then reductions of those emissions will have a greater, or at least equivalent, impact as NO_x emissions. PacifiCorp will prevail on the merits of this issue.

ii. EPA ignored legitimate, “early” NO_x emission reductions after 2011 that could have been outcome-determinative.

EPA and this Court have recognized that “early” and on-going emission reductions are appropriate factors to consider when analyzing a BART Alternative. *See WildEarth Guardians v. EPA*, 770 F.3d 919, 937 (10th Cir. 2014) (quoting EPA). And EPA has taken early and on-going emission reductions into account for other BART Alternatives. *See, e.g.*, 79 Fed. Reg. 46514, 46517 (Navajo Nation); 77 Fed. Reg. 34801, 34804 (Minnesota). Yet here, EPA refused to credit more than 575,000 tons of “early and on-going” emission reductions that have and

will occur between 2011 and the FIP compliance deadline in 2021. EPA's Response to Comments ("RTC") (relevant excerpts attached as Exhibit F), at 136-137 (*see* the figure at 137). EPA incorrectly claims these 2014-2021 reductions were not considered by the State, and that these reductions occur after an incorrect BART deadline (2014) and are not eligible to be considered. *Id.* at 138.¹⁷ EPA's claims are contrary to its own admissions. In the Proposed Rule, EPA admitted the State did consider "early and on-going" emissions reductions after 2011. 81 Fed. Reg. at 2012 (citing Utah's reliance on on-going "reductions from the August 2015 retirement of PacifiCorp's nearby Carbon power plant"); at 2018, Table 9 (admitting Utah relied on reductions from controls installed from 2006-2014 and recognizing those reductions as "on-going"). PacifiCorp also submitted persuasive evidence regarding the "early and on-going" emissions reductions (post 2014) that EPA ignored. *See* PacifiCorp Comments at 16-18. EPA's failure to consider a significant amount of the "early and on-going" emissions reductions from the BART Alternative is contrary to EPA's admissions in the Proposed Rule, the facts, and is arbitrary. PacifiCorp will prevail on this issue.

¹⁷ For purposes of its FIP, EPA argues the BART deadline is 2021. *Id.* at 338. Inconsistently, EPA argues the BART deadline is 2014 when analyzing the BART Alternative. *Id.* at 138. EPA is wrong on both accounts.

II. PacifiCorp and Its Customers Will Suffer Irreparable Harm without a Stay

The FIP's August 2021 BART compliance deadline, requiring four massive construction projects within five years, places PacifiCorp in an untenable position. *See* Teply Decl. ¶¶ 21-22. The estimated cost of SCR construction and installation at the Utah BART Units is in excess of \$700 million, with a resultant increase in annual Operating and Maintenance costs of approximately \$6 million (which does not include the millions of dollars in SCR catalyst replacement costs necessary every four years). *Id.* ¶ 21. This is in addition to the **\$1.3 billion** spent system-wide on regional haze compliance costs since 2005. *Id.* ¶ 24. As a result of the FIP, approximately \$200,000 will be spent on development of the SCR projects by the end of 2016, with more than \$2 million to be spent in 2017 and a “significant ramp up in costs” after that. *Id.* ¶ 23.

No mechanism exists for PacifiCorp to recover from EPA PacifiCorp's share of the estimated \$2.2 million or more in SCR development costs that will be incurred in 2016-2017 if the Final Rule is found to be invalid. *See Crowe & Dunlevy v. Stidham*, 640 F.3d 1140, 1157 (10th Cir. 2011) (“[I]mposition of money damages that cannot later be recovered for reasons such as sovereign immunity constitutes irreparable injury.”) (citations omitted). PacifiCorp's share of these FIP-SCR costs could be passed on to PacifiCorp's customers in the form in increased rates, and rate increases caused by EPA-mandated control equipment

was one of several factors found to support the recent stay of the Regional Haze FIP in Texas. *See Texas*, 829 F.3d at 433-44, notes 40-42.

Irreparable harm will result from EPA's FIP if no stay is granted.

III. The Balance of Equities Favors PacifiCorp's Stay Request, and Granting a Stay Is in the Public Interest

The balance of equities and the public interest strongly support granting PacifiCorp's stay request, pending completion of judicial review of the Final Rule. Here, balancing the equities focuses on a comparison of (i) the effects of keeping the FIP compliance deadline for the Utah BART Units in place pending review and assuming that the Final Rule is eventually overturned, with (ii) the effects of suspending the effective date and compliance deadline in the FIP pending review and assuming that the Final Rule is eventually affirmed. In the context of regional haze, this is not a close call.

If the FIP and its compliance deadline remain effective, and the Final Rule is overturned, the Utah BART Unit owners would have expended in excess of \$2.2 million in SCR-related costs in 2016-2017 that would be unrecoverable. *See Teply Decl.* ¶ 23. Because PacifiCorp expects to include its share of the costs in its rate structure, this also would have an obvious adverse effect on the citizens of Utah and other western states who have to pay higher electricity rates.

In contrast, neither EPA nor the regional haze program's overarching "visibility goals" will suffer any irreparable or other harm from a stay. Even if

EPA's FIP is ultimately upheld, Utah already is ahead of its reasonable progress goals, without imposition of the FIP. *See, e.g.*, Utah Progress Report, at F10-F11, F-62. Utah reported to EPA (pre-FIP) that "the current implementation plan elements and strategies are sufficient . . . to meet all established reasonable progress goals." *Id.* at F-62. And EPA has admitted that Utah is making reasonable progress towards the visibility goals. 77 Fed. Reg. at 74367-68 (Dec. 14, 2012) (finding that Utah "met all reasonable progress requirements for the Class I areas in Utah" and Utah's pre-FIP actions are sufficient "to address the relevant requirements of the RHR related to impacts on Class I areas in other states.")). PacifiCorp's compliance with the existing state-approved SIP has resulted in the annual reduction of approximately 12,700 tons of SO₂ emissions and 11,000 tons of NO_x emissions. *See* Teply Declaration ¶¶ 13-14. In addition, PacifiCorp has reduced approximately 8,000 tons annually of SO₂ emissions, 4,900 tons of NO_x emissions, and 570 tons of PM emissions as a result of the closure of the Carbon power plant and the installation of emissions reduction equipment at Hunter Unit 3. *Id.* ¶ 17.

Because of the unique situation in Utah, and the emissions reductions that already have occurred, granting a stay will not impede Utah's visibility improvement because: (1) the Utah BART Alternative reductions are already effectively in place; (2) EPA's FIP does not require further NO_x emission

reductions until 2021; (3) the BART Alternative provides increased visibility benefits compared to the FIP according to eight of nine “reasonable progress” metrics; and (4) even in EPA’s best case scenario (ignoring the impacts from SO₂ reductions and relying on questionable modeling) the average difference in impacts between the BART Alternative and SCR-as-BART is an imperceptible 0.14 dv (one dv is considered humanly perceptible). 81 Fed. Reg. at 43898-99. Given that EPA took over four years to rule on Utah’s initial SIP, and that the FIP would not produce additional emission reductions until after 2021, EPA’s own actions concede that a stay while the court considers challenges to the FIP are consistent with the public interest.

Additionally, PacifiCorp incorporates by reference the discussion of employment impacts from the State’s Motion and Counties’ intervenor motion, and the economic impacts addressed by the other parties supporting a stay. Importantly, the applicable statutes and the RH Rules do not address matters of public health. *See, Texas*, 829 F.3d at 434, note 42. Thus, delaying the effective date of the Utah FIP is not a concern in regard to public health.

CONCLUSION

If a stay is not entered, PacifiCorp and the other co-owners will be forced to begin the planning, engineering, and construction processes for SCR at the four Utah BART Units at significant cost (over \$2.2 million during 2016-2017). The

actual costs of installing and operating SCR at the four units would exceed \$700 million, while EPA's projected improvement in visibility over Utah's BART Alternative will be imperceptible at best, and actually lower than Utah's proposed BART Alternative according to eight of nine "reasonable progress" metrics. On the other hand, granting PacifiCorp's stay request will have no negative consequences on the stated visibility goals while allowing well-justified further consideration of the Final Rule.

Based on the foregoing, this Court should grant PacifiCorp's Motion for Stay.

DATED this 28th day of October, 2016.

/s/ E. Blaine Rawson

E. Blaine Rawson
Ray Quinney & Nebeker, P.C.
36 South State Street, Suite 1400
Salt Lake City, UT 84111
brawson@rqn.com
(801) 532-1500

/s/ Michael G. Jenkins

Michael G. Jenkins
Assistant General Counsel
PacifiCorp Energy
1407 North Temple, Suite 310
Salt Lake City, Utah 84116
michael.jenkins@pacificorp.com
(801) 220-2233

Attorneys for Intervenor PacifiCorp

CERTIFICATE OF SERVICE

I hereby certify that on this 28th day of October, 2016, the foregoing **MOTION FOR STAY** was served electronically on all active registered counsel of record through the Court's CM/ECF system to the following:

Gina McCarthy, Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Avi Garbow, General Counsel
Office of General Counsel (2310A)
U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Loretta E. Lynch, Attorney General
U.S. Department of Justice
950 Pennsylvania Ave. NW
Washington, D.C. 20530-0001

Bryce Bird, Director
Utah Department of Air Quality
P.O. Box 144820
Salt Lake City, UT 84114-4820

Sean D. Reyes (7969)
Utah Attorney General
Craig W. Anderson (0078)
Christian C. Stephens (9068)
Marina V. Thomas (11251)
Assistant Utah Attorneys General
195 North 1950 West, P.O. Box 140873
Salt Lake City, Utah 84114-0873
Telephone: (801) 536-0290
craiganderson@utah.gov
cstephens@utah.gov
marinathomas@utah.gov

Mason Baker, General Counsel
Utah Associated Municipal Power Systems
155 North 400 West, Suite 480
Salt Lake City, UT 84103
Telephone: (801) 214-6400
mason@uamps.com

H. Michael Keller
Artemis D. Vamianakis
Fabian VanCott
215 South State Street, Suite 1200
Salt Lake City, UT 84111-2323
Telephone: (801) 531-8900 / (801) 531-8900
mkeller@fabianvancott.com
avamianakis@fabianvancott.com
Counsel for Utah Associated Municipal Power Systems

Steven John Christiansen
Megan J. Houdeshel
Parr Brown Gee & Loveless
101 South 200 East, Suite 700
Salt Lake City, UT 84111
Telephone: (801) 532-7840
schristiansen@parrbrown.com
mhoudeshel@parrbrown.com
Counsel for Deseret Power

David F. Crabtree
Deseret Power
10714 South Jordan Gateway
South Jordan, UT 84095
Telephone: (801) 619-6500
crabtree@deseretpower.com
Counsel for Deseret Power

Stephanie J. Talbert
United States Department of Justice
Environment and Natural Resources Division
999 18th Street
South Terrace, Suite 370
Denver, CO 80202
Stephanie.talbert@usdoj.gov
Counsel for Respondents EPA and Gina McCarthy

Martin K. Banks
Lauren Elizabeth Hosler
Stoel Rives
201 South Main Street, Suite 1100
Salt Lake City, UT 84111-4904
Marty.banks@stoel.com
Lauren.hosler@stoel.com
Counsel for Petitioner-Intervenors Carbon County and Emery County

Alan I. Robbins
Debra D. Roby
Jennings, Strouss & Salmon
1350 I Street, NW, Suite 810
Washington, DC 20005
arobbins@jsslaw.com
droby@jsslaw.com
Counsel for Petitioner Intervenor Utah Municipal Power Agency

John Barth
P.O. Box 409
Hygiene, CO 80533-000
barthlawoffice@gmail.com

Jenny K. Harbine
Earthjustice
313 East Main Street
Bozeman, MT 59715-6242
jharbine@earthjustice.org
*Counsel for Respondent-Intervenors HEAL Utah, National Parks
Conservation Association, Sierra Club, and Utah Physicians for a
Healthy Environment*

/s/ E. Blaine Rawson

E. Blaine Rawson
Ray Quinney & Nebeker, P.C.
36 South State Street, Suite 1400
Salt Lake City, UT 84111
brawson@rqn.com
(801) 532-1500

/s/ Michael G. Jenkins

Michael G. Jenkins
Assistant General Counsel
PacifiCorp Energy
1407 North Temple, Suite 310
Salt Lake City, Utah 84116
michael.jenkins@pacificorp.com
(801) 220-2233

Attorneys for Petitioner PacifiCorp

CERTIFICATE OF DIGITAL SUBMISSION

I hereby certify that with respect to the foregoing:

- (1) all required privacy redactions have been made per 10th Cir. R. 25.5;
- (2) if required to file additional hard copies, that the ECF submission is an exact copy of those documents;
- (3) the digital submissions have been scanned for viruses with the most recent version of a commercial virus scanning program, Symantec Endpoint Protection (Version 12.1.6), and according to the program are free of viruses.

DATED this 28th day of October, 2016.

/s/ E. Blaine Rawson

E. Blaine Rawson
Ray Quinney & Nebeker, P.C.
36 South State Street, Suite 1400
Salt Lake City, UT 84111
brawson@rqn.com
(801) 532-1500

/s/ Michael G. Jenkins

Michael G. Jenkins
Assistant General Counsel
PacifiCorp Energy
1407 North Temple, Suite 310
Salt Lake City, Utah 84116
michael.jenkins@pacificorp.com
(801) 220-2233

Attorneys for Petitioner PacifiCorp

CERTIFICATE OF COMPLIANCE WITH RULE 32(a)
AND OCTOBER 6, 2016 ORDER

Certificate of Compliance With Type-Volume Limitation,
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1. In accordance with this Court's Order dated October 6, 2016, which allows a combined limitation of 20,800 words for the Motions to Stay imposed on all petitioners by said Order:

☒ this motion contains 5,524 words, excluding the parts of the motion exempted by Fed. R. App. P. 32(a)(7)(B)(iii), or

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DATED this 28th day of October, 2016.

/s/ E. Blaine Rawson

E. Blaine Rawson
Ray Quinney & Nebeker, P.C.
36 South State Street, Suite 1400
Salt Lake City, UT 84111
brawson@rqn.com
(801) 532-1500

/s/ Michael G. Jenkins

Michael G. Jenkins
Assistant General Counsel
PacifiCorp Energy
1407 North Temple, Suite 310
Salt Lake City, Utah 84116
michael.jenkins@pacificorp.com
(801) 220-2233

Attorneys for Petitioner PacifiCorp

Exhibit A
***PacifiCorp v. EPA*, Consolidated Case Nos. 16-
9541, 16-9542, 16-9543, 16-9545**

PacifiCorp's Comments
(Docket ID No. EPA-R08-OAR-2015-0463)
(Mar. 14, 2016)



1407 WEST NORTH TEMPLE, SUITE 210 • SALT LAKE CITY, UTAH 84116 • (801) 220-4581 • FAX (801) 220-4725

March 14, 2016

Submitted via email and electronically to www.regulations.gov

Gail Fallon
Director, Air Program
U.S. EPA, Region 8
Mailcode 8P-AR
1595 Wynkop Street
Denver, Colorado 80202-1129
Email:Fall.Gail@epa.gov

Re: Docket ID No. EPA-R08-OAR-2015-0463
Approval, Disapproval and Promulgation of Air Quality Implementations Plans;
Partial Approval and Partial Disapproval of Air Quality Implementation Plans and
Federal Implementation Plan; State of Utah; Revisions to Regional Haze State
Implementation Plan; Federal Implementation Plan for Regional Haze (Docket ID
No. EPA-R08-OAR-2015-0463)("Proposed Rule")

Dear Ms. Fallon,

PacifiCorp appreciates the opportunity to offer these comments (including the extended comments, attachments and exhibits) in the above matter. PacifiCorp strongly encourages EPA to approve Utah's BART Alternative, thereby guaranteeing "reasonable progress" towards Utah's regional haze goals in a cost-effective manner. Utah's BART Alternative meets all "applicable requirements" of the Clean Air Act; therefore it should be approved by EPA. PacifiCorp strongly opposes EPA's proposed federal implementation plan, which would result in hundreds of millions of dollars in costs with less "reasonable progress" than the BART Alternative.

Because of the length of PacifiCorp's expanded comments, we have summarized for emphasis some of those comments as follows. The below summary is not intended to be a summation of PacifiCorp's expanded comments; those stand on their own in their complete form. Rather, this summary is provided as a convenience and as part of our overall comments.

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UTAH'S SIP PROPOSAL SATISFIES THE REGIONAL HAZE REQUIREMENTS AND SHOULD BE APPROVED

- *Utah's SIP Proposal meets all applicable requirements.* Through proper application of each applicable requirement in the regional haze rules, Utah determined – and so did EPA – that the weight of the evidence demonstrates that the Utah SIP Proposal makes greater reasonable progress than installation and operation of BART; and it does so at a substantially lower cost.
- *EPA arbitrarily refuses to consider the dramatic cost difference between the two co-proposals.* EPA has made clear that the BART Alternative program is intended to achieve greater visibility progress in the most cost-effective manner. The Utah SIP does just that. EPA, however, refused to consider the cost savings associated with the Utah SIP proposal. This not only violates the foundational premise of its own BART alternative rule, but it also violates one of the fundamental tenets of reasonable regulation.
- *EPA should evaluate all visibility metrics under the weight of the evidence test.* Although EPA does an adequate job in identifying and weighing most of the available metrics, data and information under its weight of evidence analysis, it gives far too much weight to certain metrics (like the 98th Percentile metric) and not enough to other metrics (like cost and the timing of emission reductions under the BART Alternative analysis). By properly considering evidence, data and information and assigning the proper weight to each, EPA's approval of the Utah SIP Proposal will become even stronger.
- *EPA arbitrarily and capriciously applies two inappropriate standards to the Utah SIP Proposal.* In an attempt to replace Utah's determination with its own, EPA imposes a "Reasonableness Standard" without concluding the Utah SIP Proposal contains data or methodological flaws – the limited circumstances under which courts have upheld use of this standard – and also imposes a "Complexity of Evaluation" standard which finds no support in the CAA or applicable regulations.
- *EPA unfairly minimizes the timing of emissions reductions.* EPA glosses over the benefits of the timing of the BART Alternative emissions reductions. The emissions reductions associated with the BART Alternative began in 2007 and have continued to this day, long before any emissions reductions would occur under the FIP Proposal. Further, by attempting to impose BART controls EPA is actually requiring both the BART Alternative and BART – reaching well beyond the scope of its authority.

EPA's FIP PROPOSAL IS NOT LEGALLY SUSTAINABLE

- *Illegal treatment of existing controls.* EPA failed to properly consider existing controls by calculating a baseline emissions rate that did not include previously installed combustion

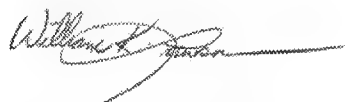
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controls. This flawed baseline emissions rate led to incorrect and inflated cost and visibility data that EPA cannot rely on to implement its FIP Proposal.

- *Grossly flawed analysis of cost.* EPA's cost analysis is wrong for the numerous reasons, including the following: (1) it utterly fails to provide *any* rationale for the 70 million dollar difference between its cost estimate for SCR and PacifiCorp's cost estimate for SCR; (2) EPA failed to follow its own the Cost Control Manual – one that EPA has compulsively required utilities' to use – by disallowing material costs that are specifically included and allowed by the CCM. Finally, EPA's expert inexplicably and incorrectly redesigned the SCR technology – without any engineering support – to “show” that only one reactor is necessary instead of two and that less catalyst could be used, thereby further skewing the SCR cost analysis.
- *Improper accounting of Energy and Non-Air Quality Impacts.* EPA did not identify or quantify the solid, liquid, and gaseous discharges from the SCR control devices under review, or the discharges with potential for causing adverse environmental effects. Also, EPA should have considered multiple energy impacts of installing SCR, but it did not. These impacts are supposed to carry greater weight in situations like the one at hand, where the visibility improvement of a particular option is marginal at best.
- *Visibility Improvements.* The visibility improvements of EPA's FIP Proposal are not reasonably anticipated from the installation of SCR because (1) EPA failed to account for the margin of error in the CALPUFF model and other material limitations of CALPUFF; (2) EPA summed up the per unit improvements rather than modeling all four BART units together; and (3) EPA failed to properly account for the limited impact of additional NOX reductions.

Again, the above summary is provided only as a tool of convenience in regard to PacifiCorp's overall comments. Please feel free to contact me with any questions.

Sincerely,



William K. Lawson

Docket ID No. EPA-R08-OAR-2015-0463

PacifiCorp's Expanded Comments to: Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze

PacifiCorp provides these comments in response to the above proposed action by the U.S. Environmental Protection Agency ("EPA") as published in the Federal Register January 14, 2016 at 81 FR 2004 ("Proposed Action").¹

I. INTRODUCTION

PacifiCorp, which operates in Utah under the business name Rocky Mountain Power, supplies electricity to more than 1.8 million residential and business customers in the state of Utah and five other western states. PacifiCorp is the majority owner and operator of Hunter Units 1 and 2, and is the owner and operator of Huntington Units 1 and 2 (collectively "**Utah BART Units**"). The Utah BART Units are the only sources that Utah and EPA have determined to be subject to the Clean Air Act's ("CAA") Best Available Retrofit Technology ("**BART**") requirements. As a result, PacifiCorp and its customers will be directly affected by EPA's final action regarding Utah's regional haze state implementation plan. The Utah regional haze state implementation plan, and all supporting documents, collectively are referred to herein as the "**Utah SIP**".

With regard to NO_x emissions, EPA describes its Proposed Action as two "co-proposals" and further describes those as "A proposal to approve the State SIP in its entirety, and a proposal to partially approve and partially disapprove the State SIP and propose a FIP." See 81 FR at 2006. PacifiCorp refers to the "proposal to approve the State SIP in its entirety" as the "**SIP Proposal**," and the "proposal to partially approve and partially disapprove the State SIP and propose a FIP" as the "**FIP Proposal**."

PacifiCorp supports EPA's approval of the SIP Proposal because the Utah SIP satisfies the regional haze requirements as EPA itself has proposed to conclude. This conclusion should be the beginning and the end of EPA's final action. The SIP Proposal produces better visibility improvement under every metric (except one) and does so at cost savings of over \$700 million² compared to the FIP Proposal. In addition, the single metric EPA

¹ These comments are in addition to those offered during the public hearing sponsored by EPA on January 26, 2016. A copy of the hearing comments are included at EPA-R08-OAR-2015-0463-0112 and identified as "Bill Lawson, Rocky Mountain Power."

² As explained below, adding LNB/OFA/SCR to the Utah BART Units will cost approximately \$170 million for each unit, with the total for all four Utah BART Units

asserts shows better visibility improvement under the FIP Proposal (98th Percentile metric) should be afforded little or no weight in evaluating the SIP Proposal. Utah considered all of the applicable metrics and evidence and, under the weight-of-evidence analysis, easily determined that the BART Alternative produces greater reasonable progress than the BART Benchmark³ at the Utah BART Units. Similarly, under the Proposed Action, EPA has a choice in evaluating the Utah SIP of approving one option (the SIP Proposal) with more visibility improvements at a substantially lower cost, or approving the other option (the FIP Proposal) with lower visibility improvements at a substantially higher cost. The choice is obvious. EPA should finalize its SIP Proposal and approve the Utah SIP.

PacifiCorp opposes the FIP Proposal because: (i) EPA has not provided adequate justification to conduct a new BART analysis for NO_x while simultaneously proposing to conclude that the Utah SIP meets applicable regional haze requirements; and (ii) EPA's proposed BART analysis for each Unit is flawed, making the FIP Proposal legally unsustainable. In addition, EPA is not empowered under the CAA to require compliance with both the SIP Proposal and the FIP Proposal. As a practical matter, that is precisely what EPA proposes to do to the extent it approves the FIP Proposal. This is because PacifiCorp already has implemented the SIP Proposal as required by Utah law. If EPA were to select the FIP Proposal, it would do so knowing⁴ that PacifiCorp would be required to implement both the SIP Proposal and the FIP Proposal. Nothing in CAA or

exceeding \$700 million. By contrast, EPA incorrectly asserts that the cost of LNB/OFA/SCR at each Utah BART Unit is about \$110 million.

³ According to EPA, the term "BART Benchmark" means "an analysis of the best system of continuous emission control technology available and the associated reductions for each source subject-to-BART covered by the alternative program...." See 81 FR at 2011. EPA sometimes uses this term in the FIP Proposal to mean requiring LNB, OFA and SCR as BART for NO_x at each of the Utah BART Units, and without conceding EPA is correct, PacifiCorp refers to BART Benchmark herein in the same manner.

⁴ EPA is well aware that the Utah SIP, as it has been implemented over time, became binding state law in regard to the Utah BART Units and ultimately the other units covered by the BART Alternative. This makes it particularly egregious that, even though EPA knew that PacifiCorp was required to expend hundreds of millions of dollars to fully implement the BART Alternative under state law, EPA said nothing about its intention to issue a competing co-proposal until after PacifiCorp had completed all of the emission reductions required under the Utah SIP. See EPA letter to Utah Division of Air Quality dated May 1, 2015 commenting on the then-proposed Utah SIP (including the BART Alternative). This secretive approach by EPA also caught the Utah Division of Air Quality off guard as explained in their oral comments during the January 26, 2016 hearing: "Throughout the SIP development process, we worked as regulatory partners, closely and extensively with EPA staff to ensure that Utah's Alternative to BART SIP revision met all the requirements of the Clean Air Act and was approvable by EPA. The EPA should approve the option that Utah developed while in close consultation with EPA and not the option that Utah was not even aware was being prepared or under consideration until it was proposed in the Federal Register."

regional haze rules allows EPA to require such a result when the Proposed Action itself states that EPA it “intends to finalize only one proposal.” See 81 FR at 2006.

II. THE BART ALTERNATIVE DESERVES EPA APPROVAL

At least three different sources document that the SIP Proposal satisfies applicable regional haze requirements: (i) the Utah SIP; (ii) PacifiCorp’s comments filed with the state of Utah in support of the Utah SIP (which comments are attached hereto as Attachment 1 and incorporated herein by this reference); and (iii) EPA’s SIP Proposal. In general, EPA must approve any SIP, including the Utah SIP, that “meets all of the applicable requirements” of the CAA. See 42 U.S.C. 7410(k)(3). By the same token, EPA is prohibited from imposing additional requirements upon its approval/disapproval of a SIP that do not qualify as “applicable requirements.” The applicable requirements that the Utah SIP must meet are described below. Also described are certain requirements that EPA purports to apply in evaluating the Utah SIP, but shouldn’t, because they are not applicable requirements of the CAA.

A. Applicable BART Alternative Requirements

The Proposed Action properly describes the Utah SIP as “an alternative to BART” for NO_x (“**BART Alternative**”) that Utah adopted “instead of establishing BART controls” at the Utah BART Units. See 81 FR at 2006. The Proposed Action further describes EPA’s support for BART alternative plans in general by noting that “the idea of a BART alternative...is a reasonable one, and one that EPA supports where consistent with the CAA and [regional haze requirements].” *Id.* In other words, as long as the BART Alternative complies with the CAA and applicable regional haze requirements, EPA is required to accept this approach in lieu of a BART determination.⁵

The Proposed Action also properly describes the evaluation (found generally at 40 C.F.R. 51.308(e)(2)) that EPA must conduct to decide whether to approve the BART Alternative as contained in the Utah SIP:

“(1) ‘[a] demonstration that the emissions trading program or other alternative measure will achieve greater reasonable progress than would have resulted from the installation and operation of BART at all sources subject to BART in the State and covered by the alternative program’; (2) ‘[a] requirement that all necessary emission reductions take place during the period of the first long-term strategy for regional haze’; and (3) ‘[a] demonstration that the emissions reductions resulting from the alternative

⁵ Comments that oppose any use of a BART alternative, like those found in Section I of the “July 8, 2015 Conservation Group Letter to EPA Janet McCabe” (EPA ID No. EPA-R08-OAR-2015-0463-0029) (the “**July 8th Letter**”), are not relevant to the issue of whether the BART Alternative meets applicable requirements. EPA should disregard such comments.

measure will be surplus to those reductions resulting from measures adopted to meet requirements of the CAA as of the baseline date of the SIP.” See 81 FR at 2006.

EPA also properly describes applicable requirements (found generally at 40 C.F.R. 51.308(e)(2) and (3)) for use in determining whether the BART Alternative achieves greater reasonable progress:

“For the first element, the determination that the alternative measure will achieve greater reasonable progress than BART, the State must provide the following: (1) A list of all BART-eligible sources within the State; (2) a list of all BART-eligible sources and all BART source categories covered by the alternative program; (3) an analysis of BART and associated emission reductions; (4) an analysis of the projected emission reductions achievable through the BART alternative; and (5) a determination that the alternative achieves greater reasonable progress than would be achievable through the installation and operation of BART.” See 81 FR at 2006.

In addition, 40 C.F.R. 51.308(e)(2) makes clear that it is fully within a state’s discretion whether to adopt a BART Alternative. That is, a “State may opt to implement or require participation in an...other alternative measure [i.e., BART Alternative] rather than require sources subject to BART to install, operate and maintain BART.”⁶ The CAA and the preamble to the BART Alternative rules also make clear that the elements of cost and energy/non-air quality impacts should be considered in the greater reasonable progress analysis. In taking final action, EPA should rely on the above requirements (which together are referred to as the “**Applicable BART Alternative Requirements**”) and approve the Utah SIP.

⁶ Because of this, arguments that Utah should never have considered a BART Alternative are beyond the scope of the Proposed Action and are not relevant. For example, see Section II of the July 8th Letter which argues against the discretion used by Utah in deciding to select a BART Alternative including the following assertions, among others: (i) “Utah eschewed the cost-effective benefits of SCR in favor of a BART ‘alternative’... that would require no new emission reductions on any source in the state;” (ii) the Units will “...continue to emit NO_x at current high levels while taking credit for emissions reductions that already have occurred;” and (iii) EPA has “never used an alternative program to exempt all of the state’s BART units from controls in exchange for wholly past emissions reductions at non-BART units.” These assertions do not attempt to explain why the Utah SIP does not meet applicable regional haze requirements and are nothing more than arguing that Utah should never select any BART Alternative. EPA should disregard such comments.

B. The Utah SIP Meets the Applicable BART Alternative Requirements

The following table demonstrates that the BART Alternative meets the Applicable BART Alternative Requirements. Very simply, the table lists the Applicable BART Alternative Requirements in the two left-hand columns, and then notes in the two right-hand columns those parts of the Utah SIP that demonstrate compliance with each requirement. EPA is not required to apply any more complicated analysis than this in approving the BART Alternative under the Utah SIP.

Regulation	Summary	Utah SIP	SIP Proposal
308(e)(2)(i)(A)	List all BART eligible sources	Meets requirement: 2015 Utah RH SIP, Sec. XX.D.6 (a)-(e).	Meets requirement: 81 FR at 2015, 2021
308(e)(2)(i)(B)	List BART eligible sources covered by BART Alternative	Meets requirement: 2015 Utah RH SIP, Sec. XX.D.6 (a)-(e).	Meets requirement: 81 FR at 2015, 2021
308(e)(2)(i)(C)	Compare BART Alternative To BART	Meets requirement: 2015 Utah RH SIP at XX.D.6(c) (including TSD “Staff Review” dated May 13, 2015)	Meets requirement: 81 FR at 2015, 2021
308(e)(2)(i)(D)	Project emission reductions	Meets requirement: 2015 Utah RH SIP at XX.D.6(c) (including TSD “Staff Review” Table 2 dated May 13, 2015)	Meets requirement: 81 FR at 2015, 2021
308(e)(2)(i)(E)	Use “weight of evidence” to determine greater reasonable progress	Meets requirement: 2015 Utah RH SIP at XX.D.6(a), (c) (including TSD “Staff Review” dated May 13, 2015)	Meets requirement: 81 FR 2016-19 and 2021-24
308(e)(2)(iii)	Emission reduction timing	Meets requirement: 2015 Utah RH SIP at XX.D.6(e)	Meets requirement: 81 FR 2019, 2025
308(e)(2)(iv)	Surplus reductions	Meets requirement: 2015 Utah RH SIP at XX.D.6(c) (including TSD “Staff Review” Table 2 dated May 13, 2015)	Meets requirement: 81 FR 2019, 2025

Regulation	Summary	Utah SIP	SIP Proposal
CAA §7491(g)(1), (2); Preamble BART Alternative rule; Appendix Y ⁷	Cost Difference	Meets requirement 2015 Utah RH SIP at XX.D.6(c) (including TSD “Staff Review” Table 2 dated May 13, 2015)	Meets requirement: EPA proposed to ignore this requirement, but should not have.
CAA §7491(g)(1), (2); Appendix Y	Energy and non-air quality impacts	Meets requirement 2015 Utah RH SIP at XX.D.6(c) (including TSD “Staff Review” Table 2 dated May 13, 2015)	Meets requirement: EPA proposed to ignore this requirement, but should not have.

Notwithstanding EPA’s lengthy Proposed Action (which covers 48 pages in the Federal Register), whether or not EPA ultimately must approve the Utah SIP boils down to whether the BART Alternative in the Utah SIP meets the Applicable BART Alternative Requirements. Because it does as EPA properly proposes to conclude and as demonstrated by the Utah SIP itself, EPA must approve the Utah SIP. It is that simple.

C. Inapplicable Regional Haze Requirements

EPA is not correct in its attempt in the Proposed Action to impose additional requirements on its evaluation of the BART Alternative and Utah SIP that are different than that Applicable BART Alternative Requirements.

1. *Reasonableness Standard* –EPA asserts that Utah “has several options for making the greater reasonable progress determination [and it] elected to use two separate approaches.”⁸ See 81 FR at 2006. EPA further states that it will evaluate both of those approaches in deciding whether to approve the Utah SIP. EPA then makes the blanket assertion that “the State’s discretion in this area is subject to the condition that it must be reasonably exercised and that its decisions be supported by adequate documentation of its analysis.” (“**Reasonableness Standard.**”) See 81 FR at 2006. Although the use of words like “reasonable” and “adequate” have common sense appeal in the abstract, EPA may not apply this standard in a way that allows EPA to discard the state’s discretion and instead impose EPA’s own will. (See generally

⁷ As explained in more detail below, consideration of the cost difference between the SIP Proposal and the FIP Proposal is another underlying aspect of the Applicable BART Alternative Requirements which EPA fails to acknowledge in the SIP Proposal. See 81 FR at 2024 (“...it is not material to our action whether we agree or disagree with Utah’s conclusion that the BART Alternative would have lower cost impact....”)

⁸ As explained below, EPA is simply wrong in concluding that Utah used two separate approaches to demonstrate greater reasonable progress. Therefore, EPA’s stated basis for imposing the Reasonableness Standard does not support EPA’s effort to do so.

Paragraphs (2) and (3) of PacifiCorp's written comments dated August 26, 2013 as submitted in EPA Docket ID No. EPA-R08-OAR-2012-0026 and identified in that docket as ID. No. EPA-R08-OAR-2012-0026-0149; a portion of these comments is attached hereto as Attachment 2.)

In addition, the present circumstances regarding the SIP Proposal are far different than those circumstances in which courts have upheld EPA's use of a similar Reasonableness Standard in other regional haze settings. For example, in North Dakota v. EPA, 730 F.3d 750, 760 (8th Cir. 2013), the court allowed EPA's use of the Reasonableness Standard under those circumstances where the state's BART determination contained "data flaws that led to an overestimated costs of compliance." Also, Oklahoma v. EPA, 723 F. 3d 1201, 1212 (10th Cir. 2013) reached a similar conclusion based on "methodological flaws."

In the case of the SIP Proposal, however, EPA proposes to approve the BART Alternative based on compliance with the Applicable BART Alternative Requirements⁹ and without also concluding that the BART Alternative contains "data flaws" or "methodological flaws." Therefore, the factual bases for allowing EPA to apply a Reasonableness Standard do not exist in regard to the BART Alternative and EPA should not attempt to apply such a standard here – particularly as a basis for rejecting the BART Alternative.¹⁰

2. Complexity of Evaluation Standard - EPA also is wrong in its attempt to count among applicable requirements the unsupported conclusion that the "complexity of our evaluation" somehow necessitates EPA soliciting comments not only on the SIP Proposal, but also on the competing FIP Proposal. See 81 FR 2006.¹¹ Even taking at

⁹ See generally 81 FR 2021 – 2026.

¹⁰ This is not to say that EPA lacks any role in reviewing and approving the Utah SIP. Indeed, the latest court to weigh in on EPA's review authority makes clear that "Congress intended that EPA, not the states alone, ultimately ensure that state determinations as to regional haze comply with the [Clean Air] Act..." Arizona ex rel. Darwin v. EPA, No. 13-70366, slip op. at 19-20 (9th Cir. Feb. 4, 2016). Although PacifiCorp agrees that EPA has a role to play in making sure the Utah SIP complies with the CAA and applicable requirements, it also notes that EPA must do so in a way that does not undermine the role of states like Utah to which "Section 169A [of the CAA] gives...substantial responsibility in determining appropriate BART [and BART Alternative] controls." The court goes on to make clear that "EPA may not disapprove reasonable state determinations that comply with the relevant statutory and regulatory requirements." Id. at 22. Such is the case with the Utah SIP.

¹¹ EPA attempts to further support this contrived "complexity" requirement by repeatedly stating that such a requirement exists, as if repetition alone somehow can bring an imaginary requirement into existence (i.e., "In light of the variety of metrics Utah used, this is a complicated analysis...;" "The complexity of our evaluation leads us to propose and solicit comments on two conclusions and two courses of action...;" "Given the complexities in evaluating these co-proposals, EPA wants to ensure that our final

face value the assertion that analyzing the Utah SIP is “complicated” (and what regional haze analysis isn’t?), that alone does not require EPA to evaluate the Utah SIP differently than any other regional haze SIP, nor does it justify EPA in presenting dueling co-proposals.¹² In other words, EPA has simply conjured up this new “complexity” requirement¹³ out of thin air in an attempt to support its offering of the competing FIP Proposal. EPA is acting arbitrarily and without legal authority by seeking comment on the FIP Proposal based on what EPA calls the “complexity of our evaluation” and for this reason EPA should withdraw the FIP Proposal and approve the SIP Proposal as proposed.

III. PacifiCorp’s Response to Certain EPA Comments

In this section, PacifiCorp responds to some of the comments made by EPA in evaluating the Utah SIP in light of Applicable BART Alternative Requirements. PacifiCorp offers these comments in an effort to bolster the record upon which EPA should take final action to approve the BART Alternative and the Utah SIP, while simultaneously not approving the FIP Proposal.

A. Applicable BART Alternative Requirements

EPA properly notes that “Utah has opted to establish an alternative measure (or program) for NO_x in accordance with 40 CFR 51.308(e)(2).” As described in the table above, the

decision is based on the best and most currently available data and information, and is taken with the fullest possible consideration of public input.”) See 81 FR at 2006.

¹² The Tenth Circuit Court of Appeals, which considered whether EPA’s approval of a BART Alternative for SO₂ emissions was appropriate, did not conclude that EPA’s analysis of the alternative program was, by its nature, more complicated than a BART analysis. See generally WildEarth Guardians v. EPA, 770 F.3d 919 (10th Cir. 2014).

¹³ EPA further attempts to justify its rationale for considering the FIP Proposal by asserting, as explained in footnote 3, the need to “ensure that our final decision is based on the best and most currently available data and information, and is taken with the fullest possible consideration of public input.” EPA already is charged with ensuring that any final decision is based on the best current data and information available. See Final Rule, Regional Haze Regulations; Revisions to Provisions Governing Alternative Source-Specific BART Determinations, 71 Fed. Reg. 60612, 60622 (Oct. 13, 2006); see also, 5 U.S.C. § 706(2). EPA already is required to make a decision based on the fullest possible consideration of public input. See 5 U.S.C. §553(c). Re-stating these fundamental principles does not allow EPA to bootstrap itself into also considering a competing co-proposal (the FIP Proposal) when the SIP Proposal already meets all Applicable BART Alternative Requirements as EPA itself has proposed to conclude. Arizona ex rel. Darwin v. EPA, No. 13-70366, slip op. at 22 (9th Cir. Feb. 4, 2016) (stating that “EPA may not second-guess reasoned, legally compliant state decisions.”) (internal citations and quotations omitted).

Applicable BART Alternative Requirements are straightforward, and EPA properly proposes to conclude that the Utah SIP complies with them. See 81 FR at 2021-27. Although PacifiCorp supports EPA's proposed conclusion,¹⁴ it disagrees with some reasons applied by EPA in reaching that conclusion. PacifiCorp believes that applying proper reasoning will strengthen EPA's conclusion that the BART Alternative under the Utah SIP demonstrates greater reasonable progress.

1. Greater Emission Reductions Test – EPA asserts that Utah applied both¹⁵ the “greater emission reductions” test (40 C.F.R. 51.308(e)(3)) and the “weight of evidence” test (40 C.F.R. 51.308(e)(2)) to conclude that the BART Alternative achieves greater reasonable progress. See 81 FR 2021, 2028. Also, EPA proposes to conclude that Utah failed to satisfy the greater emission reductions test. *Id.* at 2028. Further, EPA asserts that “[w]hile in the aggregate there are fewer SO₂ and PM₁₀ emissions for the BART Alternative, the total NO_x emissions are greater under the BART Alternative than the BART Benchmark.” *Id.* EPA, however, is simply wrong in its assertion that Utah applied the greater emission reductions test under 51.308(e)(3) in support of the Utah SIP. Utah, in fact, intentionally did not apply the greater emissions reductions test:

“Utah has chosen to use a weight-of-evidence approach under 40 CFR 51.308(e)(2)(i)(E), as described in section VII of the staff review. The separate visibility analysis described in section VIII is part of the weight-of-evidence demonstration and is not intended to provide the type of modeling demonstration that would otherwise be required under 40 CFR 51.308(e)(3).” See Utah SIP Staff Review (Chapter 1) at page 31 (May 13, 2015)

The Utah SIP could not be any clearer on this point.¹⁶ EPA's proposal to disapprove an assumed “greater emissions reduction test” portion of the Utah SIP is tantamount to setting up a straw man for the sole purpose of knocking it down. EPA should not

¹⁴ As noted above, this conclusion is the end of EPA's authority to review the Utah SIP because 42 U.S.C. §7410(k)(3) requires EPA to approve the SIP Proposal given that it meets all Applicable BART Alternative Requirements.

¹⁵ According to the U.S. Court of Appeals for the 10th Circuit, greater reasonable progress can be demonstrated using either one of two methods: (i) “greater emission reductions” than under BART (40 C.F.R. §51.308(e)(3)); or (ii) “based on the clear weight of evidence” (40 C.F.R. §51.308(e)(2)(E)). WildEarth Guardians v. EPA, 770 F.3d 919, 935-37 (10th Cir. 2014). As the court observed, the state is free to choose one method or the other. The court characterized the former approach as a “quantitative” and the later as “qualitative,” and specifically sanctioned the use of qualitative factors alone under the clear weight of evidence test to demonstrate greater reasonable progress.

¹⁶ In fact, EPA's May 1, 2015 letter to the Utah Division of Air Quality (noted above) regarding the then-proposed Utah SIP acknowledges that Utah is applying only “its weight-of-evidence analysis” and not the greater emission reductions test.

rely on any conclusion or inference¹⁷ created by asserting that Utah failed to meet the greater emission reductions test, and EPA should erase any such reference from its final action.

2. *Greater Reasonable Progress* – The crux of approving a BART Alternative is determining that it produces greater reasonable progress than BART. See 40 CFR 51.308(e)(2)(i)(e). Indeed, upon evaluating certain evidence¹⁸ in regard to the Utah SIP, EPA properly proposes: (i) “to find that the BART Alternative is likely to achieve greater reasonable progress;” and (ii) “to approve Utah’s determination that the Utah BART Alternative would achieve greater reasonable progress than BART....” See 81 FR at 2022 and 2025. EPA should take final action consistent with this proposal.¹⁹
3. *Annual Emissions Comparison of Visibility Impairing Pollutants* – In proposing to conclude that the Utah SIP demonstrates greater reasonable progress, EPA correctly notes that the “combined emissions of NO_x, SO₂ and PM₁₀” under the BART Alternative “will be 2,856 tpy lower” than emissions resulting from the BART Benchmark.²⁰ See 81 FR at 2022. EPA properly proposes to view these aggregate

¹⁷ As explained above, EPA goes to great lengths in attempting to paint the Utah SIP as being more complicated than other regional haze SIPs, thus requiring EPA to also consider the dueling FIP Proposal. Because EPA never had the need to consider the greater emission reductions test under 51.308(e)(3) in its review of the Utah SIP, EPA’s presumed complexity is reduced and EPA’s purported necessity to consider two co-proposals is further diminished.

¹⁸ EPA described the clear weight-of-evidence standard as follows: “‘Weight of evidence’” demonstrations attempt to make use of **all available information and data** which can inform a decision while recognizing the relative strengths and weaknesses of that information in arriving at the soundest decision possible. Factors which can be used in a weight of evidence determination in this context may include, but not be limited to, future projected emissions levels under the program as compared to under BART, future projected visibility conditions under the two scenarios, the geographic distribution of sources likely to reduce or increase emissions under the program as compared to BART sources, monitoring data and emissions inventories, and sensitivity analyses of any models used.” (Emphasis added.) See 71 FR 60612, 60622 (Oct. 13, 2006); Compare 81 FR at 2011-12.

¹⁹ Similarly, EPA has approved, or proposed to approve, other BART Alternatives that include “inter-pollutant trading” when SO₂ levels were lower. 79 FR 33438, 33440-41 (Washington, June 11, 2014); 79 FR 56322, 56328 (Arizona, Sept. 19, 2014).

²⁰ As noted above, EPA has described the BART Benchmark as “the best system of continuous emission control technology available and the associated reductions for each source subject-to-BART covered by the alternative program....” See 81 FR at 2011. Specifically, EPA considers the BART Benchmark under its Proposed Action to be “the

emissions reductions “as part of the overall weight-of-evidence analysis,” to be a materially positive factor in leading to visibility improvement.²¹ *Id.* In every other context and program under the CAA, lower overall emissions are considered a positive result. 42 U.S.C. §7401(c). EPA agrees this is true in the Utah SIP context as well, first by acknowledging that total SO₂ and total PM emissions are reduced significantly on an individual pollutant basis under the BART Alternative. In fact, EPA notes that SO₂ emissions will be reduced by 8,005 tpy under the BART Alternative. Also, when EPA steps out of the theoretical world of visibility modeling and into the real world of monitored visibility improvements, EPA agrees that aggregate emission reductions under the BART Alternative will have a greater measureable impact on improving visibility during more parts of the year than additional NO_x reductions would achieve under the BART Benchmark.²² 81 FR at 2022. Thus, under the BART Alternative, any potential adverse impact to visibility caused by a smaller decrease of NO_x emissions (compared to the BART Benchmark)

most stringent NO_x BART controls, SCR plus new LNBs and SOFA, at the four BART units.” *Id.* at 2015.

²¹ EPA is blatantly wrong, however, in taking the opposite approach on this point in its proposal to approve the FIP Proposal and reject the SIP Proposal. See 81 FR at 2029. There, EPA blindly concludes that “a comparison of emissions of multiple pollutant species of emissions [sic] is generally not informative, particularly when the Agency is addressing whether an approach provides for greater reasonable progress towards improving visibility.” This conclusion is demonstrably wrong, however, for the very reasons EPA has proposed to approve the BART Alternative in regard to this particular metric. For example, EPA concludes in support of the BART Alternative that, based on this very same metric, “the BART Alternative is likely to achieve greater reasonable progress,” particularly in light of CALPUFF modeling results that shows greater SO₂ emissions reductions under the BART Alternative improve visibility far more than additional NO_x emissions reductions under the BART Benchmark. *Id.* at 2022. EPA also asserts in the FIP Proposal that, because each pollutant species reacts differently to humidity, chemistry, geography, etc., EPA should not consider the visibility improvement resulting from the collective emissions reductions. This conclusion also is demonstrably wrong for the reasons EPA states in proposing to approve the SIP Proposal. For example, EPA attempts to use the very reasons why EPA should approve the BART Alternative – the significant visibility improvement associated with the SO₂ reductions because of humidity, chemistry, geography, etc.—as bureaucratic rationale to not approve the BART Alternative. *Id.* at 2022. Also, EPA’s FIP Proposal holds up as the deciding factor visibility improvements resulting from fewer NO_x emission reductions under the BART Benchmark. At the same time, EPA acknowledges that this cannot actually be the case because it is SO₂ emission reductions under the BART Alternative – and not NO_x emission reductions under the BART Benchmark – that results in the greater visibility improvements during all parts of the year. *Id.* at 2022-24.

²² “However, for reasons described later in subsection vii for our evaluation of Utah’s IMPROVE monitoring metric, we propose to concur with Utah’s finding that SO₂ emissions reductions should provide visibility benefits in all seasons and that sulfate is the largest contributor to visibility impairment at the affected Class I areas. Furthermore, we propose to find that these observations suggest that the BART Alternative is likely to achieve greater reasonable progress.” See 81 FR at 2022.

is overcome by the increased visibility benefits of combined overall emission reductions.²³ In that case, EPA properly proposes to conclude that such significant aggregate emission reductions should be considered as an important element entitled to substantial weight in determining greater reasonable progress.

4. *Improvement in the Number of Days With Significant Visibility Impairment* – EPA also properly recognizes that, when analyzing the total number of days for the years modeled, fewer days with significant visibility impacts will occur under the BART Alternative as compared to the BART Benchmark. See 81 FR at 2022. EPA describes this metric as “useful in assessing the frequency and duration of significant visibility impacts from a source or small group of sources.” *Id.* In fact, EPA’s model shows that the BART Alternative will produce 18 fewer days of impact above the causation threshold of 1.0 dv threshold, and 175 fewer days of impact above the contribution threshold of 0.5 dv.²⁴ *Id.* EPA thus concludes that such modeled improvements are “an indication that the BART Alternative achieves greater reasonable progress.”²⁵ *Id.*

EPA’s consideration of this type of information is consistent with 40 CFR 51, appendix Y (the “**BART Guidelines**”), where Section IV.D.5 states that, in determining BART, “comparison thresholds can be used in a number of ways in evaluating visibility improvements....”²⁶ As explained below, PacifiCorp encourages EPA to apply significant weight to this particular metric, including a conclusion that such modeling results show strong evidence of greater reasonable progress.

In any case, the use of this metric takes a holistic view of visibility improvement, which is deserving of significant consideration by EPA.²⁷ By comparison, the 98th

²³ This is so even though the visibility improvements associated with NO_x assumed under the BART Benchmark are wildly overstated. See Comments on the Use of CALPUFF Model in the EPA Proposed Rule on the Utah Regional Haze SIP, prepared by Gale F. Hoffnagle, TRC Environmental Consultants, dated March 2016, (“**Hoffnagle Report**”) and attached hereto as Attachment 3. If the visibility improvements associated with NO_x were stated properly, then the modeled visibility improvements under the BART Alternative would be even greater and provide even more reason for EPA to approve the BART Alternative.

²⁴ EPA summarizes the number of days of impact differently at 81 FR 2024 where it concludes that there are 48 fewer days of impact of 1.0 dv or more, and 154 fewer days of impact of 0.5 dv or more, under the BART Alternative. Under either set of numbers, of course, the BART Alternative produces greater reasonable progress.

²⁵ EPA also should consider the average number of days above the noted thresholds as contained in Tables 5 and 6 of the Proposed Action (16 fewer days for 1.0 dv, and 58 fewer days for 0.5 dv under the BART Alternative). This additional evidence supports EPA’s proposed conclusion that that BART Alternative demonstrates greater reasonable progress.

²⁶ See 81 FR at 2022, including footnote 84.

²⁷ Thus, EPA’s criticism of this very metric in support of the FIP Proposal – and in particular the 18 days of fewer impacts over 1.0 dv – misses the mark. See 81 FR 2029.

percentile metric (addressed below) presents more of a rifle-shot metric that focuses on a single day²⁸ of visibility improvement and inherently is less reliable for evaluating the BART Alternative.

5. 98th Percentile Impact (dv) – EPA asserts that:

“The 98th percentile visibility impact is a key metric recommended by the BART Guidelines when selecting BART controls. In addition, this is one of the primary metrics that EPA has relied on in evaluating prior regional haze actions that have included BART alternatives. In the BART Guidelines, EPA described this metric as an appropriate measure in determining the degree of visibility improvement expected from controls. Therefore, we propose to find that it is an appropriate metric for assessing the relative benefits of the Utah BART Alternative here.” See 81 FR at 2022.

In other words, the core reasons why EPA proposes to rely on the 98th percentile metric in evaluating the BART Alternative are because: (i) this metric is recommended in the BART Guidelines for determining BART; and (ii) EPA has used it in other regional haze actions that have include BART alternatives. Neither reason, however, requires EPA to consider the results of 98th percentile metric to be of more than marginal worth, especially given the flaws inherent in the use of the CALPUFF model.

As explained in the Hoffnagle Report (and in greater detail below), the 98th Percentile metric measures only the 8th highest impact day, and even then, it greatly overestimates the modeled visibility improvement. For example, when correcting for the margin of error rates inherent in the model, EPA’s presumed visibility improvement resulting from the BART Benchmark becomes virtually non-existent. This information makes clear that EPA should take into account the inherent weakness of this metric (due to the margin of error rates and other reasons explained

There, EPA admits that the 175 days of fewer visibility impacts over 0.5 dv holds up even under its trumped-up criticism (and therefore “the results of the 0.5 dv threshold favor the BART Alternative”). EPA goes on, however, to simply change the metric by which it evaluates the visibility benefit resulting from 18 fewer days over 1.0 dv of impact. (Total days across all Class I areas vs. average days at each Class I area.) In addition, EPA unilaterally ignores, under the FIP Proposal, the precedent it cites in support of the metric it uses to evaluate the SIP Proposal. EPA got it right the first time under the SIP Proposal, should stick with those metrics, and conclude that they support approval of the SIP Proposal.

²⁸ The Proposed Action recognizes the limitations of the 98th Percentile Impact analysis as compared to other metrics by stating that, “the annual average does provide an indication of the modeled visibility impacts for the entire year while the 98th percentile modeled results speak to a particular day (the 8th highest impacted day).” See 81 FR at 2023 (emphasis added).

in the Hoffnagle Report) in regard to the BART Alternative.²⁹ In this light, EPA should give little to no weight to this metric in evaluating the BART Alternative. This is particularly true because the BART Guidelines make use of the 98th Percentile Impact metric permissive even in the context of evaluating BART: “[T]he following is an approach that you may use to determine visibility impacts...,” which includes comparing “the 98th percent days for the pre- and post-control runs.” See BART Guidelines at Section IV.D.5 (emphasis added). As a discretionary tool, the result of this metric alone should not determine the outcome of EPA’s decision regarding the BART Alternative.³⁰

Also, the BART Guidelines make clear that, even in the context of determining BART, states “are free to determine the weight and significance to be assigned” to this factor. In other words, even the BART Guidelines confirm that Utah could “determine the weight and significance” of the 98th Percentile metric, which is exactly what Utah did. This is another reason why, if EPA considers the 98th Percentile metric at all, it should give it only marginal weight to it in evaluating the BART Alternative.

In addition, EPA’s conclusion in applying the 98th Percentile Impact analysis is that, “on the whole... the BART Benchmark is better on average across all years and all Class I areas (0.14 dv difference).” 81 FR at 2030. By any candid measure, however, such a small difference is not only too miniscule to be of any value, but falls well within the margin of error of the complex modeling calculations used to reach this conclusion as explained in the Hoffnagle Report. In fact, EPA has determined in other states that visibility improvements even greater than 0.14 are too small or inconsequential to justify additional pollution controls in the BART context. (See 77 FR 24794 (0.27 dV improvement termed “small” and did not justify additional pollution controls in New York); 77 FR 11879, 11891 (0.043 to 0.16 ΔdV improvements considered “very small additional visibility improvements” that did not justify NOX controls in Mississippi); 77 FR 18052, 18066 (agreeing with Colorado’s determination that “low visibility improvement (under 0.2 ΔdV)” did not justify SCR for Comanche units)). Tellingly, the “low visibility improvements” that Colorado found at the Comanche units not to justify post-combustion NOX controls -- as agreed to by EPA -- were 0.17 and 0.14 ΔdV. 77 FR at 18066. In evaluating the BART Alternative here, EPA should not rely on this tiny modeled dv improvement to

²⁹ EPA’s explanation (above) is that the weight-of-evidence test includes considering “sensitivity analyses of any models used.” This makes clear that EPA should take into account the weaknesses of the CALPUFF model in giving this metric little to no weight.

³⁰ EPA does not explicitly state that use of the 98th Percentile Impact analysis is determinative of its proposal to approve or reject the BART Alternative even though it concludes this metric “favors the BART Benchmark.” See 81 FR at 2022. EPA does, however, place a disproportionately great weight on this metric in the co-proposal to approve the FIP Proposal and reject the SIP Proposal. *Id.* at 2030.

support the conclusion that “this metric favors the BART Benchmark” (81 FR at 2030) when it really does no such thing for the reasons noted above.

6. Annual Average Impact (dv) – EPA properly concluded that it should consider the Annual Average Impact metric because it “provides additional useful information.” See 81 FR at 2023. EPA also properly focuses on this metric because it provides “an indication of the modeled visibility impacts for the entire year” as compared to the 98th Percentile Impact analysis which focuses on a single day. *Id.* In other words it provides a wide-angle view of visibility improvement over a long period of time instead of the compressed telephoto perspective of looking at a single day. This is important when considering the BART Alternative under the weight-of-evidence analysis which allows a state, as explained above, to consider the relative strengths and weaknesses of information and data. Although EPA acknowledges the dv impact resulting from “this metric is small (0.009 dv),” EPA still properly proposes to find – because of the more expansive nature of this metric - that it at least marginally “supports a conclusion that the BART Alternative achieves greater reasonable progress.” *Id.*

In evaluating the FIP Proposal, however, EPA flips all of this rationale on its head and instead proposes to conclude that this metric “does not support a conclusion that the BART Alternative achieves greater reasonable progress than the BART Benchmark.” 81 FR at 3030. To support this opposite conclusion, EPA tries to force this wide-angle view into a more compressed form and essentially argues that the metric provides weak data and information because: (i) “this metric shows less or equal visibility improvement at four of the nine Class I areas;” and (ii) “it does not represent the benefits of the BART Alternative on the maximum impact days.” *Id.* The weight-of-evidence test, however, does not allow for such trickery by EPA. EPA cannot change the focus of the metric under its FIP Proposal. In evaluating this metric at face value (without demanding that it be more or different than it is), EPA should stick with its conclusion that it provides some support under the weight-of-evidence analysis for approving the BART Alternative.

7. 90th Percentile Impact (dv) – As with the Annual Average Impact metric, EPA properly concluded to consider the 90th Percentile Impact metric which “shows that the BART Alternative is better at seven of the nine Class I areas and is slightly better averaged across three years and across nine Class I areas (0.006 dv difference).” EPA uses this metric even though “the use of the 90th percentile impacts to evaluate alternatives has not been EPA’s practice for source-specific BART determinations....” See 81 FR at 2023. Because of the expansive weight-of-evidence test which considers “all available information and data” as described above, EPA is correct to take this metric into account and conclude that it somewhat “supports a conclusion that the BART Alternative achieves greater reasonable progress.” *Id.* Use of the 90th Percentile metric actually provides a more useful look at modeled visibility improvement because it evaluates the 10% worst impacted day as opposed to the 2% worst impacted day under the 98th Percentile metric. Because the BART rule partially

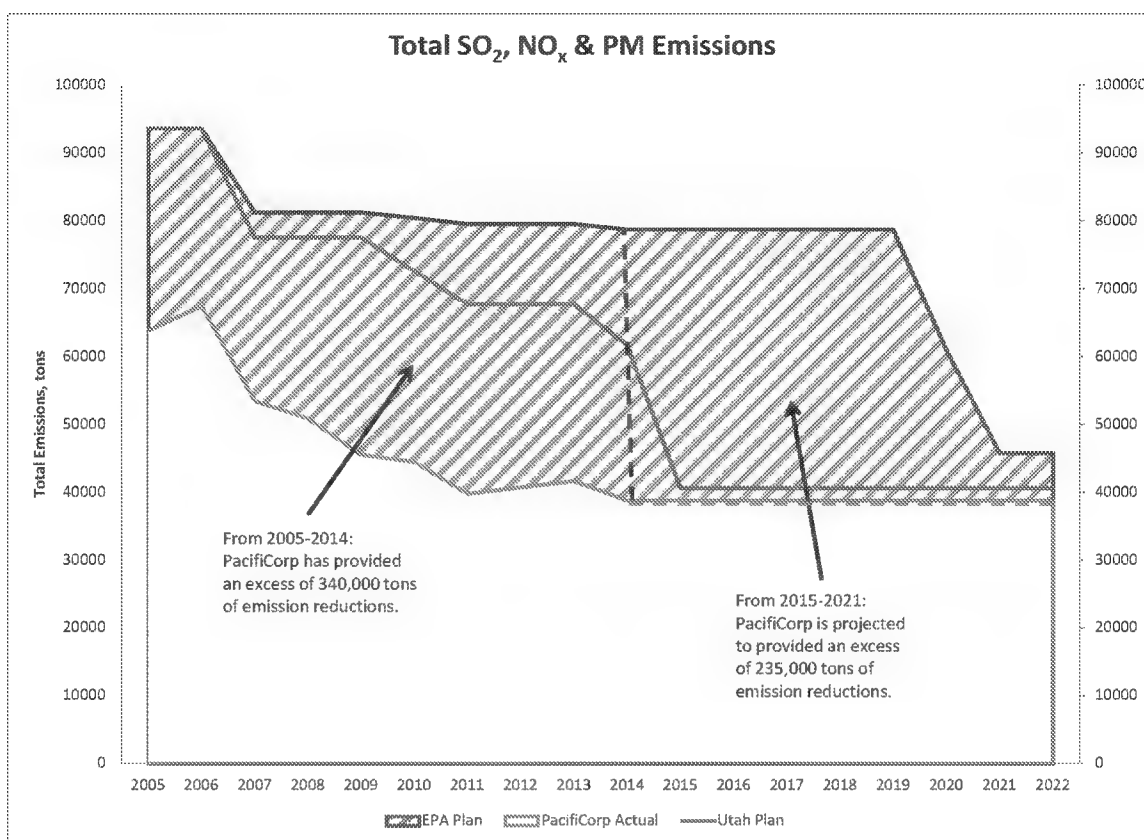
targets improving visibility during the 20% worst days, of all the metrics used by Utah and EPA to evaluate the BART Alternative the 90th Percentile metric comes closest to evaluating those targeted days. That alone suggests that this metric should be afforded some weight in evaluating the BART Alternative as EPA has proposed. EPA takes the opposite approach, however, when it comes to the FIP Proposal. There, EPA baldly concludes only that the use of this metric is “questionable” support for the BART Alternative. *Id.* at 2030. Simply slapping the label “questionable” on this metric without further support does not make it so, nor does it make this metric unavailable to support EPA’s analysis under the SIP proposal that it “supports a conclusion that the BART Alternative achieves greater reasonable progress.” *Id.* at 2023. This is particularly true in light of the Hoffnagle Report’s comments regarding the 90th Percentile metric.

8. *Timing for the Emissions Reductions* – In considering the Timing of Emissions Reductions metric, EPA notes simply that “the reductions from the BART Alternative will occur before the BART Benchmark.” See 81 FR at 2023. Although this is a true statement on its face, EPA does an extreme disservice to Utah, PacifiCorp, its customers and the general public by including such an underwhelming description of the meaningful and large visibility benefits associated with the timing of emissions reductions under the BART Alternative³¹ as compared to the BART Benchmark. In approving the BART Alternative, PacifiCorp strongly encourages EPA to more completely describe both the tremendous scope, and the overwhelmingly positive visibility impact, of the timing of emission reductions under the BART Alternative as compared to the BART Benchmark.

The table below shows the timing of controls installed under the BART Alternative, along with: (i) the total tons of emissions reductions achieved since the date of the installation of the controls; and (ii) the projected emissions reductions to be achieved until the time when the BART Benchmark is expected to be implemented.³²

³¹ In at least three other portions of the Proposed Action, EPA at least acknowledges that the “reductions under the Utah BART Alternative are required under the State SIP by August 2015, as noted in Table 5, providing an **early and on-going visibility benefit as compared to BART.**” (emphasis added) See 81 FR at 2018, 2024, and 2030. In addition, EPA states in the Proposed Action that: “Also notable is that combustion control upgrades at the Hunter and Huntington facilities have been achieving significant NOx reductions **since the time of their installation between 2006 and 2014.**” (emphasis added) *Id.* at 2030. At the critical point of describing in the Proposed Action the timing of reductions as evidence to consider under the Weight of Evidence analysis, however, EPA could not even be bothered to do more than nominally and incompletely describe that evidence, leaving out the importance, scope and impact of the timing of such significant emissions reductions. This, in turn, led to EPA incompletely evaluating the weight of this evidence when considering the SIP Proposal (even though EPA actually reaches the proper conclusion in proposing to approve the BART Alternative).

³² EPA projects that the BART Benchmark “likely would be fully implemented sometime between 2019 and 2021.” See 81 FR at 2030.



As can be seen, the BART Alternative already has produced a total of 340,000 tons of combined emission reductions beginning in 2007 and continuing through 2014. And these emissions reductions have occurred at a time long before the BART Benchmark ever would be implemented. In addition, the BART Alternative is expected to continue to produce significant emission reductions between now and the time of the BART Benchmark (and beyond). EPA should specifically note the significant visibility benefits associated with the timing of these emissions reductions and assign them great weight under the Weight of Evidence test.³³ What EPA should not do, however, is brush over the Emission Reduction Timing metric by failing to adequately describe or consider the significant timing benefits as EPA appears to have done in its tepid conclusions regarding the weight of the Emission Reduction Timing metric in evaluating the BART Benchmark.

Even in evaluating its FIP Proposal, EPA cannot escape acknowledging the benefits of the timing of emission reductions achieved under the BART Alternative as

³³ The U.S. Circuit Court of Appeals for the 10th Circuit explicitly acknowledged that the consideration by EPA of emission reductions occurring at an early point in time is a proper part of a clear weight of evidence approach to determining greater reasonable progress. WildEarth Guardians v. E.P.A., 770 F.3d 919, 938 (10th Cir. 2014).

compared to the BART Benchmark. Indeed, EPA does not, and cannot, offer any criticism to the contrary and instead concludes that: “we recognize that the reductions from the BART Alternative would occur before the BART Alternative.” See 81 FR at 2030. Therefore, even though EPA has employed every tactic it can think of criticize other metrics used to evaluate the BART Alternative under its FIP Proposal, EPA makes no such attempt when it comes to the timing metric. This failure is additional evidence that the timing metric should carry great weight in EPA’s weight-of-evidence analysis in support of the BART Alternative and this metric in no way supports the FIP Proposal.

9. IMPROVE Monitoring Data – EPA properly reaches the following conclusions: (i) “anthropogenic visibility impairment on the Colorado Plateau is dominated by sulfates;” (ii) “sulfate is the largest contributor to visibility impairment at the affected Class I areas;” (iii) “SO₂ reductions should provide visibility benefits in all seasons;” and (iv) “visibility benefits associated with NO_x reductions are much more likely to occur [only] in the winter months.” See 81 FR at 2023-2024. These conclusions properly support the BART Alternative because it requires more significant reductions of SO₂ emissions as the primary driver of year round visibility improvements. This is true even though the BART Alternative supports fewer reductions of NO_x emissions (compared to the BART Benchmark) because further NO_x reductions do not contribute as significantly to visibility improvement, and even when they do, it is only during very limited times of the year with lower visitation rates in affected Class I areas.

EPA’s proposal to disagree with Utah’s findings in regard to lower park visitation during the winter season, however, lacks merit. As EPA acknowledges, the BART Guidelines allow for states like Utah to “determine if the time of year is important (e.g., high [visibility] impacts are occurring during tourist season.... States may develop other methods as well.” See 81 FR at 2024, footnote 109. EPA’s decision to not consider this fact in regard to NO_x emissions under the BART Alternative is directly contrary to the cited BART Guidelines. Utah did not assert, as EPA seems to think, that slow-season, winter month visitors are entitled to less visibility protection than visitors during high-season, summer months. But consistent with the BART Guidelines, Utah properly considered this fact among others under the weight-of-evidence analysis. EPA should do the same rather than reject this approach out of hand.

As with the timing metric discussed above, EPA does not attempt to criticize this metric in regard to its FIP Proposal (except for the winter visitor information described above). See 81 FR at 2031. This alone is additional evidence that the IMPROVE Monitoring Data metric should carry great weight in EPA’s weight-of-evidence analysis in support of the BART Alternative and that this metric in no way supports the BART Benchmark.

10. Energy and Non-Air Quality Benefits – EPA concludes that the Energy and Non-Air Quality Benefits identified by Utah “do not have a direct bearing on whether the BART Alternative achieves greater reasonable progress” and therefore are not material to EPA’s action on the SIP Proposal. See 81 FR at 2024. EPA, however, is not correct in this conclusion. As explained above regarding EPA’s own description of the evidence to be considered in the Weight of Evidence evaluation: “‘Weight of evidence’ demonstrations attempt to make use of **all available information and data** which can inform a decision while recognizing the relative strengths and weaknesses of that information in arriving at the soundest decision possible.” (emphasis added) “All available information and data” includes Energy and Non-Air Quality Benefits because they help to inform greater reasonable progress decisions by causing decision-makers to consider concurrent impacts of a particular action. This is especially true given EPA’s repeated reliance on the BART Guidelines to evaluate the BART Alternative (specifically the 98th. Percentile metric), and an evaluation of Energy and Non-Air Quality Benefits are an explicit part of those BART Guidelines. See BART Guidelines at Section IV.D.4.i. Additionally, Congress considered this factor as sufficiently important to specifically include it as part of the five-factor BART analysis requirements. 42 U.S.C. §7491(g)(2). Likewise, this factor should be part of EPA’s evaluation of the BART Alternative and EPA should consider the impacts identified by Utah as an additional reason to support approval of the SIP Proposal.

As with the timing and IMPROVE metrics discussed above, EPA does not attempt to criticize this metric in regard to its FIP Proposal. See 81 FR at 2031. This alone is additional evidence that the Energy and Non-Air Quality Benefit metric should carry great weight in EPA’s weight-of-evidence analysis in support of the BART Alternative and that this metric in no way supports the BART Benchmark.

11. Cost – EPA’s decision that “it is not material to our action whether we agree or disagree with Utah’s conclusion that the BART Alternative would have a lower cost impact to PacifiCorp than the BART Benchmark” borders on regulatory absurdity.³⁴ See 81 FR at 2024. As EPA itself acknowledges, the cost of the BART Benchmark is at \$400 million more than the cost of the BART Alternative (and PacifiCorp contends the cost is in excess of \$700 million more). If the cost difference between EPA’s competing co-proposals is not material and worthy of EPA’s consideration in taking final action, then what cost information possibly could be?

EPA’s proposal not to consider cost in evaluating the BART Alternative, however, fails for several reasons. First, EPA itself introduced cost as a foundational

³⁴ This is particularly true because, after announcing that the significantly lower cost of the BART Alternative is not material to its final action, EPA ultimately states that “we do agree” with Utah that the BART Alternative will cost more than \$700 million less than the BART Benchmark. See 81 FR at 2024. Such inconsistent reasoning does not support EPA’s refusal to consider the cost difference in its BART Alternative analysis.

component of any BART Alternative analysis. In EPA's final Revisions to Provisions Governing Alternative to Source-Specific BART Determinations at 71 FR 60612 (October 13, 2006), EPA lays out the foundation for any state to consider a BART Alternative:

"The EPA continues to support State efforts to develop trading programs and other alternative strategies to fulfill the goals of the CAA. We believe such strategies have the potential to achieve greater progress towards the national visibility goals than more traditional approaches to regulation, **and to do so in the most cost-effective manner practicable.**" 71 FR at 60614. (Emphasis added.)

In other words, in promulgating the BART Alternative rules, EPA recognized that the basis for considering a BART Alternative is twofold: (i) to achieve greater progress towards visibility goals; and (ii) to do so "**in the most cost-effective manner.**" EPA cannot pass a rule based on the foundational premise of cost-effectiveness, and then apply that rule with active disregard of the very cost-effectiveness foundation upon which the rule is based.³⁵ In fact, considering the cost difference of the BART Alternative is consistent with the judicial philosophy which underpinned the U.S. Supreme Court's recent decision in Michigan v. EPA, 135 S.Ct. 2699 (2015). There, the court considered whether it was reasonable for EPA to refuse to consider cost in regard to regulating hazardous air pollutant from power plants. The court noted that:

"Agencies have long treated cost as a centrally relevant factor when deciding whether to regulate. Consideration of cost reflects the understanding that reasonable regulation ordinarily requires paying attention to the advantages and the disadvantages of agency decisions. It also reflects the reality that 'too much wasteful expenditure devoted to one problem may well mean considerably fewer resources available to deal effectively with other (perhaps more serious) problems.'" Id. at 2707.

Even the dissent in the Michigan v. EPA case agrees on this point: "I agree with the majority—let there be no doubt about this—that EPA's power plant regulation would be unreasonable if '[t]he Agency gave cost no thought *at all*.'" Id. at 2714. As a result, all nine justices of the U.S. Supreme Court sent a clear signal that EPA must consider cost in making agency decisions to achieve emission reduction benefits

³⁵ EPA acknowledged this principle in arguing to the court in favor of considering "the full structure and function" of the 309 program, which in essence is a BART Alternative: "Petitioners' contention that EPA impermissibly approved the backstop trading program ignores the full structure and function of the 309 program and improperly seeks to narrow the scope of EPA's discretion and this Court's review." See EPA's Primary Brief at page 15 (September 13, 2013), a portion of which is attached as Attachment 4. Likewise, EPA should consider the cost impact of the BART Alternative (including the cost difference as compared to the BART Benchmark) in order to consider "the full structure and function" of the Applicable BART Alternative Rules as described in the preamble to those rules.

(including visibility improvement). Likewise, EPA should consider the cost difference between the BART Alternative and the BART Benchmark as part of the weight-of-evidence analysis instead of actively disregarding that cost difference as EPA has proposed to do.

EPA already has before it as part of this rulemaking docket the very cost saving benefits information it should consider in approving the BART Alternative. These costs savings are material and significant by any stretch of the imagination. EPA's refusal to formally consider the cost information is akin to the position it took in Michigan v. EPA where the court clearly and forcefully ruled that EPA could not "ignore cost." EPA should give up its attempt to do that very thing here.

Second, the CAA requirements and applicable regional haze rules have as one of their foundational components the consideration of cost. See CAA at §7491(g)(1) and (2). Also, see 40 CFR 51.308(d)(1) which states that a core requirement of a regional haze SIP is the inclusion of reasonable progress goals under which "(i)... the State must: (A) consider the costs of compliance"). It is irrational to require the consideration of cost in setting BART and reasonable progress goals, but then assert it is not even a remote consideration when evaluating a BART Alternative. Cost consideration is so fundamental to the fabric of the regional haze statutes and rules that EPA should have little trouble concluding that it must consider those costs in evaluating the BART Alternative (particularly as compared to the FIP Proposal).

Third, EPA's own interpretation of the Weight of Evidence standard is expansive. It includes "all available information and data."³⁶ All means all. EPA should not now add restrictions to its expansive interpretation in order to prejudicially exclude consideration of material cost impacts and cost differences. In fact, EPA's brief in the SO₂ Backstop Trading case explains that the preamble to the applicable regional haze rule allows "all available information and data" to be considered as part of the "weight of evidence" analysis. EPA SO₂ Backstop Trading brief at 36, 38, citing to 71 FR at 60621, 60631. Also in its brief, EPA specifically mentioned "lower compliance costs" as "'policy considerations' which EPA may properly assess under the 'clear weight of the evidence' standard when comparing BART to a BART-alternative." EPA SO₂ Backstop Trading brief at 42.

Fourth, EPA is wrong to exclude consideration of costs to the extent EPA claims the BART Alternative requirements do not require cost consideration. The Proposed Action offers "two co-proposals" from which "EPA intends to finalize only one proposal." See 81 FR at 2006. The very nature of offering two co-proposals from

³⁶ In evaluating the Weight of Evidence standard, the U.S. Court of Appeals for the 10th Circuit agreed and stated that EPA itself concluded that the examples EPA listed in the BART Alternative rule described above are "not exhaustive and that the determination should be based on 'all available information and data which can information a decision....'" WildEarth Guardians v. E.P.A., 770 F.3d 919, 935 (10th Cir. 2014).

which to select one is to compare and contrast between them.³⁷ EPA clearly considers cost to be important in proposing the FIP Proposal.³⁸ The nature of the Proposed Action as “two co-proposals” requires EPA to consider cost in regard to the SIP Alternative as well, particularly for the purpose of comparing the co-proposals against each other. Also, because EPA relies on non-cost portions of the BART Guidelines in evaluating a BART Alternative, then it also should rely on the BART Guidelines as justification for considering the cost savings of the BART Alternative.

Finally, Utah considered the cost impact of the BART Alternative to be important enough to respond to comments about cost as follows as part of the Utah SIP rulemaking process:

“PacifiCorp noted in their comments on the proposed SIP revision that the Alternative Measure not only produces greater reasonable progress, including lower emissions and improved visibility, but it does so at a significant capital cost savings to PacifiCorp and its customers as compared to the most stringent NOX technology and limits. While DAQ has not officially determined the cost of installing SCR on the four units, it is clear that it would be a significant cost. On the other hand, the Carbon Plant has already been closed due to the high cost of complying with the MATS rule. The costs to Utah rate payers (and those in other states served by PacifiCorp) to replace the power generated by the Carbon Plant have already occurred; there will be no additional cost to achieve the co-benefit of visibility improvement. *In other words, the Alternative Measure achieves better visibility improvements than would be achieved by requiring SCR as BART at the four EGUs, and at a significantly lower cost. This presents a classic “win/win” scenario – the Alternative Measure results in greater reasonable progress and that greater reasonable progress is achieved at a much lower price compared to SCR.* Cost is one of the factors listed in section 169A(g)(2) that should be considered when determining BART.” (Emphasis added.) Utah SIP; Staff Review; May 13, 2016 p. 27.

EPA likewise should consider the cost impact and differences in at least a similar manner when evaluating the BART Alternative.

As with the timing, IMPROVE and Energy/Non-Air Quality metrics discussed above, EPA does not attempt to criticize this cost metric in regard to its FIP Proposal. See 81

³⁷ As explained above, PacifiCorp maintains that EPA is bound to approve the SIP Alternative and is prohibited from even considering the FIP Alternative. Because EPA proposes to consider both, however, PacifiCorp’s comments regarding EPA comparing and contrasting the SIP Alternative with the FIP Alternative are applicable.

³⁸ See 81 FR at 2024: “We do agree” with “Utah’s conclusion that the BART Alternative would have a lower cost impact to PacifiCorp than the BART Benchmark....” Also, see Proposed Action at Section VI.D.1.a (Costs of Compliance).

FR at 2031. This alone is additional evidence that the cost metric should carry great weight in EPA's weight-of-evidence analysis in support of the BART Alternative and that this metric in no way supports the BART Benchmark.

B. Evaluation of Weight of Evidence

As explained above, the weight-of-evidence analysis is not the exclusive province of EPA. Rather, in considering whether to approve the SIP Proposal, EPA should give great weight and deference to what evidence Utah selected, how Utah elected to weigh that evidence in evaluating the BART Alternative, and to Utah's conclusions. In other words, it is not EPA's role to apply this test *de novo* as EPA attempts to do here. Because EPA already has properly proposed to find that Utah correctly followed the Applicable BART Alternative Requirements, properly weighed the evidence and available metrics and reached a logical and rationale conclusion, EPA's role should be limited to explaining the foregoing and approving the Utah SIP. This is particularly true given EPA's statement that "it is preferable that the regional haze program be implemented through state plans." See 81 FR at 2006.

PacifiCorp agrees with EPA that the following evidence should carry the most weight: (i) the BART Alternative produces 8,005 fewer tpy of SO₂ emissions and 2,856 fewer tpy of combined emissions than the BART Benchmark (see 81 FR at 2024); (ii) the BART Alternative produces 48 fewer days of impact above 1.0 dv, and 145 days of impact above 0.05 dv (*Id.*)³⁹; (iii) the IMPROVE monitoring networks shows that a reduction in SO₂ emissions (in this case 8,005 tpy) "provides visibility benefits throughout the year" as compared to NO_x emission reductions which don't, that "sulfate is the largest contributor to visibility impairment at affected Class I areas," and that the BART Alternative provides for the greatest SO₂ reductions (in this case 8,005 tpy more than the BART Benchmark)(*Id.*); and (iv) the BART Alternative produces a far earlier start to emission reductions through earlier installation of emission controls (compared to the BART Benchmark), beginning in 2007 and continuing on through August 2015. (*Id.*) In short, as compared to the BART Benchmark, the above evidence alone (which EPA agrees should carry significant weight) demonstrates that the BART Alternative -- as compared to the BART Benchmark -- produces greater reasonable progress in the form of greater SO₂ and overall emission reductions, more overall days of improved visibility, better visibility benefits throughout the year, and a significantly earlier start to emission reductions. EPA correctly proposes to conclude that the weight of this evidence produces greater reasonable progress and requires approval of the BART Alternative.

In addition, for the reasons explained above and summarized below, EPA should apply additional weight (or in the case of cost, non-air quality environmental and energy impacts,

³⁹ Elsewhere in the Proposed Action EPA uses 18 fewer days above the 1.0 dv threshold and 175 fewer days above the 0.5 dv threshold. See 81 FR at 2022, 2029. It is not clear why EPA uses different data here, but the fact is that all of the cited data supports both giving great weight to this metric and EPA's overall conclusion to approve the BART Alternative.

any weight) to the following evidence (or metrics). By doing so, EPA will conclude even more forcefully that it should approve the Utah SIP.

1. *TPY* – As explained above and following Utah’s lead in the Utah SIP, EPA has assumed that the SIP Proposal produces a greater reduction in aggregate emission reductions of 2,856 tpy compared to the BART Benchmark. This information, however, presumes that the emission units covered under the BART Alternative have emitted at the maximum amount allowable under applicable permits every minute of every day for 365 days each year. In reality, of course, the units do not function in this manner. Therefore, EPA should also take into account the actual emissions from the affected units in considering the aggregate tpy reductions, at least in considering emissions from 2007 until the present. This information is available above in the chart at page 17. By acknowledging that the SIP Proposal – based on actual emissions data – produced even greater emission reductions than EPA (or Utah) had supposed, this gives EPA even more reason to approve the BART Alternative based on this metric.

2. *Emission Reductions Timing* – Information available above in the chart at page 17 also demonstrates, coupled with accurate emission tonnage reduction amounts, that the BART Alternative provides even greater benefits earlier than EPA has supposed. Having this information in this manner allows EPA to better consider the magnitude of these benefits under the BART Alternative. This, in turn, requires EPA to afford even greater weight to this metric in support of the BART Alternative.

3. *Costs and Energy/Non-Air Quality Impacts* – EPA should consider, as material evidence with significant weight, the cost savings available by approving the BART Alternative as compared to the BART Benchmark. Indeed, EPA will be arbitrary and capricious in its decision-making if it fails to consider this cost difference. This is particularly true if EPA’s failure to consider the cost savings under the BART Alternative leads EPA to disapprove the SIP Proposal and instead approve the FIP proposal. This also is true for the energy/non-air quality impacts which EPA should have taken into account.

IV. EPA’S FIP PROPOSAL IS NOT LEGALLY SUSTAINABLE

Not only did EPA improperly reject the Utah SIP Proposal for the reasons described above, it also failed to correctly analyze the five statutory BART factors under its FIP Proposal when it created its NO_x BART determinations for the Utah BART Units (Hunter Units 1 and 2, and Huntington Units 1 and 2). In determining BART, EPA recognizes its duty to apply the five statutory BART factors. “In determining BART, the state, or EPA if promulgating a FIP, must consider the five statutory factors in section 169A(g)(2) of the CAA: (1) The costs of compliance; (2) the energy and non-air quality environmental impacts of compliance; (3) any existing pollution control technology in use at the source; (4) the remaining useful life of the source; and (5) the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.” See 81 FR at 2032.

EPA, however, failed to properly consider and analyze four of the five BART factors in its FIP Proposal: (i) existing NO_x controls; (ii) costs of compliance; (iii) non-air quality environmental and energy impacts; and (iv) reasonably anticipated visibility improvement. For these reasons, EPA should not finalize the FIP Proposal and instead should approve the SIP Proposal.

A. Existing Controls⁴⁰

EPA incorrectly claims that it properly considered the existing combustion controls (LNB and SOFA) at Hunter Unit 1 as required by the BART statute and BART Guidelines. See 81 F R at 2034. Rather, as EPA begrudgingly admits, it evaluated “control technologies and baseline emissions” from what it mistakenly claims is the “correct starting point, that is, prior to the installation of the combustion controls pursuant to state-law NO_x limitations.” *Id.* at 2036.⁴¹ In other words, while EPA may have noted the presence of the existing controls when identifying the types of potential BART NO_x controls, **EPA did not take into account the impact of the existing controls** when actually conducting the statutorily-required BART cost and visibility analyses for Hunter Unit 1, including establishing the baseline emissions to be used in the cost and visibility analyses. **EPA made this same mistake for all of the Utah BART Units.** 81 FR at 2038-40, tbls. 19-24, (Hunter Unit 2); 81 FR at 2042-44 tbls. 25-30 (Huntington Unit 1); 81 FR at 2046-48, tbls. 32-36 (Huntington 2).

EPA’s refusal to properly account for “existing controls” violates the CAA and BART Guidelines, and skews EPA’s BART analysis. As EPA also is well aware, the Eighth Circuit Court of Appeals found that EPA’s similar actions in North Dakota (ignoring existing controls when conducting a BART “cost” analysis) violated the CAA. Finally, EPA took a contrary position for one of PacifiCorp’s units in Arizona (Cholla Unit 4, which EPA uses as a comparable benchmark here), making EPA’s actions here overtly arbitrary and capricious.

⁴⁰ While PacifiCorp uses Hunter Unit 1’s BART analysis as an example here, EPA made the same “existing controls” mistake for all four Utah BART Units. In fact, unless otherwise stated, all of the arguments made herein regarding Utah’s FIP Proposal apply with equal force to all of the Utah BART Units.

⁴¹ EPA also emphasizes that it “did not approve” the existing NO_x pollution controls. However, the courts, see North Dakota, have held this issue is irrelevant. Moreover, here, where EPA did not act on Utah’s regional haze SIP for years, it is disingenuous for EPA to claim it did not approve the controls when EPA withheld its approval/disapproval for years beyond the statutory time frame. In 2008, Utah submitted to EPA a RH SIP containing Utah’s BART analyses for PacifiCorp’s four BART-eligible units located in Utah, identifying the currently-installed “existing controls” as BART. EPA took no formal action with regard to this 2008 RH SIP, or on a minor 2011 revision (which did not materially alter or modify the 2008 BART determinations), until EPA proposed partial disapproval of the 2011 RH SIP revision on May 16, 2012. By then, Utah’s RH SIP was legally binding and PacifiCorp was legally required to install the controls.

1. The CAA and BART Guidelines Require EPA to consider “existing controls.” -- The language of the regional haze statute is unambiguous; a State/or EPA determining BART must take account of “any existing pollution control technology in use at the source[.]” 42 U.S.C. § 7491(g)(2). The statute is clear. It does not allow EPA to consider “existing controls” for some limited purposes, but ignore them for other important analyses. For example, when conducting a five-factor BART determination, the State/or EPA must determine the “realistic” baseline emissions so that accurate BART cost and visibility analyses can be performed. The BART Guidelines state “[t]he baseline emissions should represent a *realistic* depiction of *anticipated* annual emissions for the source. In general, for the existing sources subject to BART, you will estimate the anticipated annual emissions based upon actual emissions from a baseline period.” 40 C.F.R. pt. 51, app. Y § IV.D.4.d. (emphasis added).

Here, despite claiming it considered “existing controls,” EPA refused to account for the “existing controls” when setting the baseline emissions, a fundamental part of a BART analysis. Instead, EPA used a baseline emission rate founded on 2001-2003 data which did not account for the “existing controls.” Moreover, EPA’s use of 2001-2003 emissions data to establish the baseline emissions for the Utah BART Units is neither “realistic” nor provides the “anticipated” emissions as required by the BART Guidelines. Using outdated emissions information is not “realistic;” it does not reflect reality at all. For example, the 2001-2003 NO_x emissions rate for Hunter 1 was 0.40 lb/MMBtu. 81 FR at 2004, 2034, tbl. 13. After the installation of pollution control equipment in 2014, the actual NO_x emissions rate changed to 0.21 lb/MMBtu, a 48.4% decrease. *Id.* at 2034. Therefore, the old 2001-2003 emissions data is no longer “realistic,” and represents approximately half of the actual, realistic emissions rate. Moreover, EPA cannot use outdated emissions data to “anticipate” annual emissions from the Utah BART Units because the NO_x emissions rates, in fact, have materially changed. This mistake skews EPA’s BART decision-making.

2. The Eighth Circuit rejected EPA’s “existing control” interpretation -- Not only does EPA’s “existing controls” approach in the FIP Proposal violate the BART Guidelines, but courts have rejected EPA’s approach as well. In North Dakota, a power company had installed pollution control equipment two years before EPA conducted its BART determination. North Dakota v. EPA, 730 F.3d 750, 760 (8th Cir. 2013). The power company argued EPA should consider the existing controls when calculating cost effectiveness, among other things. EPA refused, unsuccessfully arguing that it “was not required to reconsider cost estimates based on voluntarily installed controls installed after the baseline period.” *Id.* at 762. The Eighth Circuit rejected EPA’s actions, and its excuses. The North Dakota court held that “EPA’s refusal to consider the existing pollution control technology in use at the Coal Creek Station because it had been voluntarily installed was arbitrary and capricious.” *Id.* at 764. The court further held EPA’s failure to properly consider the “existing pollution control technology” was contrary to the plain language of the CAA and rejected part of EPA’s FIP on this basis. *Id.* at 762-64.

Here, EPA repeated the same mistake for the Utah BART Units in the FIP Proposal. EPA's NO_x BART determinations failed to properly account for the low NO_x burners and over-fire air systems ("LNB/OFA") that already had been installed when EPA conducted its BART cost and visibility improvement analyses. Also, EPA refused to consider the existing LNB/OFA for the same reason the court rejected in North Dakota: because EPA did not approve the LNB/OFA installation as BART. See, e.g., 81 FR at 2036.⁴² EPA's actions in the FIP Proposal are just as illegal as its actions in North Dakota. EPA must redo its NO_x BART determinations in the FIP Proposal to account for the "existing controls" in the baseline emissions, BART cost analyses, and BART visibility improvement analyses for the Utah BART Units.

EPA's "existing controls" mistake has significant consequences and materially skews EPA's NO_x BART analyses at the Utah BART Units. For example, using outdated baseline emissions data that did not recognize existing controls, EPA calculated "cost-effectiveness" for NO_x BART at Hunter Unit 1 assuming that new LNB/OFA had not been installed. See e.g., 81 FR at 2004, 2,034 tbl. 13, 2036. EPA's failure to consider Hunter Unit 1's existing NO_x controls caused EPA to overestimate the cost effectiveness of SCR by crediting SCR with the future removal of NO_x emissions that, in fact, are already being removed by the existing LNB/OFA. This mistake was caused in large part by EPA's refusal to consider "existing controls" as part of its baseline emission analysis. "Baseline emissions" are an elemental part of a BART cost-effectiveness calculation. 40 C.F.R. Part 51, App. Y, § IV.D.4.d.

EPA also artificially inflated the calculated visibility improvement from SCR by combining the modeled visibility improvement for SCR (which has not yet been installed) with the modeled visibility improvement of LNB/OFA (which EPA knows has already been installed). See e.g. 81 FR at 2,004, 2035-36. Once the CALPUFF modeled visibility improvements from LNB/OFA are removed from that attributed to SCR (1.55 dv at the most impacted Class I area according to EPA's flawed modeling data), the calculated visibility improvements from SCR shrink to 0.70 -- less than the perceptible level of 1.0 dv. *Id.* at 2035, tbl 15. Many of EPA's other calculated visibility improvements, once the gains from existing LNB/OFA are removed, shrink to numbers that fall within the margin of error for the CALPUFF model, and that cannot be used to justify EPA's FIP Proposal. Nat'l Parks Conservation Ass'n v. E.P.A., 788 F.3d 1134, 1147 (9th Cir. 2015).

In essence, as a result of EPA ignoring the "existing controls" at the Utah BART Units, EPA's NO_x BART analyses ask the wrong question. Instead of asking, "what cost and visibility improvements are associated with the installation of LNB/OFA and SCR, even though LNB/OFA are already installed?" EPA should have asked, "what cost and visibility improvements are associated with the installation solely of SCR?"

⁴² Moreover, EPA's decision to ignore the "existing controls" is counter-intuitive. As explained above, the "existing controls" have resulted in emissions reductions and related modeled visibility improvements years before EPA's FIP Proposal.

3. EPA considered “existing controls” at Cholla Unit 4 -- EPA’s refusal to recognize existing NO_x controls at the Utah BART Units is contrary to not only the BART statute, BART Guidelines, and existing case law, but is also contrary to EPA’s past practice at one of PacifiCorp’s other units in Arizona (Cholla Unit 4). In the Arizona regional haze rulemaking, EPA said:

“The presence of existing pollution control technology is reflected in the BART analysis in two ways: First, in the consideration of available control technologies . . . , and *second, in the development of baseline emission rates for use in cost calculations and visibility modeling.* . . . AEPCO, APS, and SRP used baseline time periods that varied from 2001 to 2007. *The respective baseline emissions and existing pollution control technology used in the BART analyses reflect the levels of control in place at the time.* EPA considers ADEQ’s approach to be reasonable and generally consistent with the [Regional Haze Rule] and the BART Guidelines.” Arizona Proposed RH Rule, See 77 FR at 42834, 42841 (emphasis added).

Moreover, EPA found that adjusting baseline emissions to account for existing controls was necessary to get a “realistic estimate of current visibility impacts and the effect of BART controls.” See 77 FR at 42854. EPA reiterated this position in the Arizona Final RH Rule. See 77 FR at 72512, 72526 (“This provision is consistent with the statutory requirement that each BART determination take into consideration ‘any existing pollution control technology at the source’ . . . in order to ‘represent a realistic depiction of anticipated annual emissions for the source’ the baseline can account for controls already installed on the source.”).

In Arizona, EPA recognized that since it had disapproved Arizona’s BART determinations for NO_x, EPA was “obligated to conduct [its] own five-factor BART analyses for NO_x” and included “existing” NO_x controls in the EPA’s BART baseline emissions analysis, including for Cholla. *Id.* Here, contrary to its clear position in Arizona and Colorado (and for the Cholla and Hayden power plants, which EPA cites in the FIP Proposal as BART comparisons for the Utah BART Units),⁴³ EPA ignored existing controls in the development of baseline emission

⁴³ In its FIP Proposal, EPA compared the cost and visibility analyses from the Utah BART Units to the analyses from the Cholla power plant in Arizona. See e.g., 81 at 2037. PacifiCorp owns Unit 4 at the Cholla power plant. EPA considered existing controls when setting the baseline emissions data for Cholla Unit 4, but will not consider existing controls when setting the baseline emissions data for the Utah BART Units, which PacifiCorp also owns and operates. The “awkwardness” and inconsistency of this approach can be seen in EPA’s own comparison language. For example, for Hunter Unit 1, EPA states, “as with Hayden, the *average* cost effectiveness of SCR at Cholla should be compared with the *incremental* cost-effectiveness of SCR . . . at Hunter Unit 1.” *Id.* (emphasis added). Why does EPA require *average* cost effectiveness numbers at Hayden and Cholla to be compared with *incremental* cost effectiveness numbers at Hunter and Huntington? The reason: EPA is arbitrarily applying a different “baseline emissions”

rates. Due to EPA's inconsistencies in applying the baseline emissions methods, EPA's actions are arbitrary and capricious.

4. *EPA Has Considered Existing Controls in Other Settings in Utah* -- Not only are EPA's actions inconsistent with its BART analyses in Colorado and Arizona, but EPA's FIP Proposal is inconsistent with other EPA actions in Utah. Paragraph 11 of DG&T's settlement agreement with EPA Region 8 provides that "in conducting any reasonable progress analysis under the regional haze rule, EPA Region 8 acknowledges that in calculating Deseret's baseline emissions EPA Region 8 intends to reflect any emission reductions that result from a final LNB/OFA Minor NSR Permit and installation of LNB/OFA." Considering existing LNB/OFA at one power plant in Utah for baseline emissions purposes (particularly one that EPA has allowed to escape any previous regional haze analyses), but not another, is the very definition of arbitrary and capricious.

EPA's refusal to meaningfully consider the "existing" NO_x controls at Hunter and Huntington as a substantive part of its BART cost and visibility improvement analyses is forcibly contrary to EPA's statements and actions in Arizona, Colorado, Utah, the North Dakota decision, and the BART statute and Guidelines. EPA should withdraw its FIP Proposal and approve Utah's SIP Proposal.

B. Costs

Any BART determination must include an analysis of cost. 42 U.S.C. § 7491(g)(2). In the FIP Proposal, EPA states that it determined costs "in accordance with the BART Guidelines," the "EPA Air Pollution Control Cost Manual" ("CCM"), "portions of the draft 2015 revisions to the CCM chapters for the post-combustion NO_x control technologies" related to SNCR and SCR, and "cost of compliance estimates supplied to EPA by Andover Technology Partners (ATP)" which in turn "rely on the cost estimates that PacifiCorp submitted to Utah in 2012 and 2014, but with those cost estimates adjusted in a number of cases for reasons described in the ATP report." See 81 FR at 2031-33. EPA's SCR cost estimates are flawed, particularly ATP's revisions to PacifiCorp's cost estimates and also because of EPA's departure from the existing CCM. EPA's NO_x BART determinations in its FIP Proposal are flawed because they relied on ATP's flawed SCR cost estimates.

To identify and explain these flaws, PacifiCorp retained Sargent & Lundy ("S&L"),⁴⁴ a respected engineering firm that engineers and designs NO_x pollution control devices,

method to Hunter and Huntington that skews the "average cost-effectiveness number" and makes it incomparable to the same numbers at Hayden and Cholla. It is arbitrary and capricious to apply to different interpretations of the "existing controls" statutory requirement different power plants within PacifiCorp's system and to BART determinations EPA uses for comparison.

⁴⁴ S&L's experience in the electric power industry, as well as its experience working with PacifiCorp, made it uniquely qualified to perform a review of ATP's and EPA's SCR

such as SCR's. S&L generated a report ("S&L Report"), attached hereto as Attachment 5, which is hereby incorporated by reference. S&L identified several material mistakes made by ATP in generating its SCR cost estimates, which estimates EPA then relied on in its BART determinations and FIP Proposal. EPA also made its own independent mistakes in its SCR cost estimates.⁴⁵ As a result of ATP's and EPA's cost-estimating mistakes and misapplication of the applicable statutes and regulations, the EPA's BART cost estimates for SCR are vague, confusing, illegal, and wrong, and EPA's FIP Proposal should be rejected, for the following reasons.

1. EPA's SCR BART cost estimates are missing required information -- EPA claims that its SCR capital costs were obtained, in part, from PacifiCorp's 2014 BART Analyses. However, PacifiCorp's estimated SCR capital costs are much higher than EPA's estimated SCR capital costs. For example, in PacifiCorp's August 4, 2014 BART analysis, page 2, the estimated SCR capital costs for LNB/OFA/SCR are \$180.8 million for Hunter Unit 1. S&L Report at 3, tbl. 1. EPA claims the estimated capital costs for LNB/OFA/SCR are \$110.3 million for Hunter Unit 1. See 81 Fed. Reg. 2,004, 2,035 tbl. 14. While EPA claims PacifiCorp improperly included certain costs (which claim is wrong), EPA never explains the \$70 million difference between its SCR cost estimate and PacifiCorp's SCR cost estimate for Hunter Unit 1.⁴⁶ EPA must adequately support and document its BART cost analysis, which includes explaining the differences between PacifiCorp's August 2014 BART analysis costs and EPA's revised costs relied upon in the Proposed Rule. PacifiCorp cannot verify EPA's SCR cost estimates, which are reductions of PacifiCorp's SCR cost estimates, until EPA explains how it reduced PacifiCorp's cost estimates on an item by item basis. EPA's "actions must be reasoned." Nat'l Parks Conservation Ass'n v. E.P.A.,

cost estimates. S&L has considerable experience with the federal and state environmental regulations affecting power plant operations, as well as the specification, evaluation, selection, and implementation of emission control technologies for both gas- and coal-fueled utility power facilities, including extensive experience with the NO_x control technologies evaluated. For example, since 2000, S&L has provided, or is currently providing, engineering services for the implementation of SCR systems on 68 units, totaling more than 36,000 MW of operating capacity. S&L's first-hand experience with NO_x control technologies, especially SCR systems, provides it with a thorough understanding of both the capital and operating and maintenance (O&M) costs associated with these technologies. In addition, S&L has completed multiple projects for PacifiCorp at both the Hunter and Huntington stations and is familiar with the site constraints and the potential challenges to construct SCR systems at each station.

⁴⁵ EPA made several obvious mistakes in its SCR cost estimates. For example, EPA's FIP Proposal rejects PacifiCorp's SCR cost estimates allegedly because they included improper items, such as AFUDC. See 81 FR at 2004, 2034-35. However, EPA's own expert stated "AFUDC is not included in the overnight cost methodology of the CCM and therefore was not allowed. PacifiCorp correctly excluded this from their estimate." ATP Report, page 10.

⁴⁶ Again, although PacifiCorp uses Hunter 1 as an example, EPA and ATP made the same SCR cost estimating mistakes at all of the Utah BART units. Therefore, all of the arguments made herein apply with equal force to all Utah BART Units.

788 F.3d 1134, 1141 (9th Cir. 2015). The law requires EPA to “cogently explain why it has exercised its discretion in a given manner.” Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983); Gen. Chem. Corp. v. United States, 817 F.2d 844, 857 (D.C. Cir. 1987) (per curiam). Here, EPA has not cogently explained the difference between its SCR BART cost estimates and PacifiCorp’s SCR cost estimates.

2. *EPA’s cost estimates are contrary to the CCM* -- In the FIP Proposal, EPA states that “cost estimates for control technologies should be based on the CCM, where possible.” See 81 FR at 2033. But EPA, and its expert, ATP, ignored certain costs allowed by the EPA Control Cost Manual (“CCM”) when calculating SCR costs for the NOx BART determinations. For example, in the ATP Report, pages 7-8, EPA’s expert discounted costs from PacifiCorp’s SCR cost estimates that the same experts admit are allowed by the CCM. The ATP Report admits “PacifiCorp provided cost estimates that follow the general format of the 2002 CCM. Although the 2002 CCM shows a process contingency of 5% in Table 2.5 in Section 4.2 (page 2-44), this is not necessary today for SCR on coal-fired boilers firing the coals used in Utah.” *Id.* In other words, ATP and EPA inappropriately disallowed SCR costs for process contingency that are explicitly authorized by the CCM. S&L estimates that improperly excluding the “process contingency” reduced EPA’s SCR cost estimates by approximately \$6 million per Utah BART Unit. S&L Report at 23, tbl 2. This cost is material and impacts the BART cost-effectiveness analyses.

But this is not all. ATP and EPA further skewed the SCR cost estimates relied on by EPA by disallowing general facilities costs, catalyst costs, and indirect installation costs -- all of which are specifically allowed by the CCM. It is improper for EPA to ignore SCR costs allowed by the CCM. See 79 FR at 5032, 5135 (“There are only very limited situations in which a state or EPA can depart from the CCM cost methodology. . . . The guidelines for BART determinations make it clear that the CCM is the intended methodology for conducting a BART cost determination. It also states why: To maintain and improve consistency.”).

If ever this rationale applied to a regional haze plan, it applies to the FIP Proposal. In an attempt to validate its SCR-focused BART determinations in the FIP Proposal for the Utah BART Units, EPA compared the Utah BART Units’ cost and visibility data with that from SCR-focused BART determinations for the Cholla power plant in Arizona, Laramie River power plant in Wyoming, and Hayden power plant in Colorado. See e.g., 81 FR at 2037. However, as EPA has admitted, such comparisons are meaningless unless the cost estimates are done in a consistent manner. Therefore, before EPA can make the alleged BART cost comparisons, it will need to show it made the same CCM adjustments to the cost estimates for the Cholla, Laramie River, and Hayden cost estimates. This it cannot do, and EPA should withdraw its FIP Proposal.

a. *“Draft” changes to the CCM Don’t Count* -- Additionally, ATP and EPA incorrectly made changes to PacifiCorp’s SCR cost estimates based on draft

changes to the CCM. See e.g., 81 FR at 2032 (“we have utilized portions of the draft 2015 revisions to the CCM chapters for the post-combustion NO_x control technologies,” including SCR). For example, ATP rejected S&L’s and PacifiCorp’s catalyst cost estimates, derived from experience and application of the appropriate cost estimation methods, partially due to ATP’s application of the draft 2015 CCM revisions. See e.g., ATP Report at 13 (ATP used the 2015 draft CCM to calculate catalyst costs). EPA’s actions are improper. EPA cannot rely on draft CCM changes that are still subject to rulemaking and subject to revision to reduce PacifiCorp’s SCR cost estimates. EPA claims it follows the CCM to ensure consistency between BART determinations. See 79 FR at 5032, 5135 (“The guidelines for BART determinations make it clear that the CCM is the intended methodology for conducting a BART cost determination. It also states why: To maintain and improve consistency.”). Using the draft 2015 CCM proposed revisions for the NO_x BART determinations in the FIP Proposal when EPA knows those same revisions were not used for other BART determinations is highly inconsistent. Finally, given EPA’s historic refusal to consider updated visibility modeling,⁴⁷ EPA’s reliance on a draft revision to the CCM to formulate its SCR cost estimates for the BART NO_x determinations is arbitrary and capricious.

3. *EPA’s SCR BART Cost Estimates are Invalid* -- EPA admitted that it relied on the ATP Report for its SCR cost estimate information. See, e.g. 81 FR at 2035 (Hunter 1). However, the ATP Report was incorrect, and these mistakes carried over to EPA’s BART cost analyses for the Utah BART Units.

a. *The ATP Report’s cost comparisons are incorrect* -- As part of its Report, ATP considered “historical industry cost data . . . to determine if the costs were reasonable in the context of what has been reported at other facilities.” ATP Report at 7. However, ATP’s analysis was skewed because it relied upon comparisons with SCR units built at a much lower elevation (ignoring the increase in flue gas volume from higher elevation units, like Huntington and Hunter). See S&L Report, at 2-3. ATP also included cost data from the early 2000s, and then incorrectly escalated it using the CEPCI, which is an improper method. See S&L Report at 3-4. When the correct adjustments are made for elevation⁴⁸ and outdated cost information, ATP’s SCR cost estimates are demonstrably too low, and are not representative of costs actually incurred for

⁴⁷ See 79 FR 5032, 5115 (“We did not use CALPUFF Version 6.4 because this version of the model has not been approved by EPA for regulatory use.”)

⁴⁸ ATP’s and EPA’s failure to properly consider the impact site elevation has on SCR costs is surprising given that both made this same mistake with SCR cost estimates in Wyoming, and corrected it only after prompting through public comments. See 79 FR 5032, 5039 (“EPA revised the cost analyses from those found in the proposed rule based upon input from various commenters. Some of factors that caused us to revise our cost estimates included accounting for site elevation in the SCR capital cost. . .”).

recent SCR installations. See S&L Report at 4-5. However, PacifiCorp's SCR cost estimates, without ATP's and EPA's improper reductions, are representative of actual SCR costs. Id. at 5, fig. 1. In fact, PacifiCorp's SCR cost estimates, on a \$/kw basis, are less than the 2013 SCR cost included in the ATP Report. Id. at 5. All of this information shows EPA's SCR cost estimates are unreasonable and flawed. Therefore, EPA's SCR cost estimates and related NOx BART determinations are likewise flawed.

- b. *The ATP Report arbitrarily rejected "process contingency"* -- ATP argues that, although the CCM allowed the "process contingency" identified in PacifiCorp's cost estimates, it is outdated because SCR is a "well proven and well understood technology on a wide range of US coals." ATP Report at 7-8. However, as S&L explains, the lack of experience with western bituminous coals, particularly Utah coals, and the potential for vapor-phase phosphorous poisoning of catalyst for deep-stage burners, such as those at the Utah BART Units, justify the process contingency provided for in the CCM. See S&L Report, at 6-7. Moreover, ATP and EPA are essentially modifying the CCM without putting the same through the required notice and comment process, which neither ATP nor EPA can do. ATP's and EPA's rejection of the "process contingency" in PacifiCorp's SCR cost estimates was inappropriate.

c. *The ATP Report capriciously rejected "project contingency"* -- The ATP Report also rejected PacifiCorp's "15% project contingency" as excessive, and stated "no additional project contingency is allowed." ATP Report at 8-9. ATP claims the project contingency should not be allowed because it results in double counting, and because PacifiCorp's SCR cost estimates were "detailed estimates" instead of "study-level (class 4 or 5) estimates." Id. at 9. ATP essentially admits that a 15% project contingency is proper for certain categories of estimates, but claims that PacifiCorp's SCR cost estimates do not fall within these categories. Id. at 8. ATP is wrong. ATP improperly classified PacifiCorp's SCR cost estimates as "detailed estimates" for which a project contingency is not allowed, ignoring that such "detailed estimates" require completion of at least 30% of the engineering and the SCR system design and construction must have been awarded to a contractor. See S&L Report at 7-9. The level of engineering work done for PacifiCorp's 2014 SCR cost estimates for Hunter and Huntington is below 5% and no SCR system design and construction contract has been awarded. Id. at 8. Therefore, according to the parameters identified in the CCM, PacifiCorp's SCR cost estimates are definitely "study level" estimates and the 15% "project contingency" should be included in EPA's SCR cost estimates. Id. at 9. Moreover, ATP's concerns about "double counting" are misplaced and ATP did not identify any items it claims were double counted. Id. S&L estimates ATP's "project contingency" mistake changed the EPA's SCR cost estimates by approximately \$22 million per Utah BART Unit. S&L Report at 23, tbl 2. EPA's and ATP's cost-estimating mistakes regarding the "project contingency" are material, and invalidate EPA's FIP Proposal.

d. *The ATP Report improperly refuses “general facilities costs”* -- In its SCR cost estimates, ATP refused to include a line item for “general facilities” to “avoid double counting.” ATP Report at 9. ATP’s refusal is incorrect for two reasons. First, S&L and PacifiCorp “correctly followed the example illustrated in Chapter 2 of the Control Cost Manual with respect to General Facilities.” See S&L Report at 10. Second, much of the equipment “listed in S&L’s estimate to which Andover objects is safety related and included to protect the operating personnel. This equipment is required by the process and contributes directly to the physical capital costs.” Id. ATP’s example of “double counted” costs are unclear, and confusing. Id. S&L estimates ATP’s “general facilities” mistake changed EPA’s SCR cost estimates by approximately \$6 million per Utah BART Unit. S&L Report at 23, tbl 2. EPA’s and ATP’s cost-estimating mistakes regarding the “general facilities cost” are material, and invalidate EPA’s FIP Proposal.

e. *ATP incorrectly disallowed “indirect installation costs”* -- ATP disallowed certain “indirect installation costs,” again alleging that such costs were double counted. ATP Report at 11. ATP is wrong again. PacifiCorp’s SCR cost estimates were already adjusted to avoid double counting and PacifiCorp followed the CCM when addressing indirect installation costs. See S&L Report at 12-14. Despite the fact that indirect installation costs are real world costs that PacifiCorp will incur if required to install SCR, PacifiCorp followed the CCM and excluded the required costs. Id. S&L estimates ATP’s “indirect installation cost” mistakes changed the EPA’s SLR cost estimates by approximately \$5.7 million per Utah BART Unit. S&L Report at 23, tbl 2. EPA’s and ATP’s cost-estimating mistakes regarding the “indirect installation costs” are material, and invalidate EPA’s FIP Proposal.

f. *ATP, and EPA by extension, illegally redesigned the SCR and incorrectly underestimated catalyst costs.* ATP illogically adjusted PacifiCorp’s SCR cost estimates based on ATP’s incorrect analyses of catalyst cost, catalyst volume and life span, SCR reactor design, and use of regenerated catalyst. ATP Report at 14-20. ATP’s assumptions lack any proper engineering basis, and are completely incorrect. First, PacifiCorp’s catalyst cost estimates were based on the CCM, and as such should be allowed. See S&L Report at 14. Moreover, ATP’s claim that PacifiCorp adjusted catalyst costs by improperly using the CEPCI is wrong; ATP misinterprets how PacifiCorp calculated catalyst costs. Id. at 14-15. Additionally, ATP’s catalyst cost number is an arbitrary number that omits real world costs, such as freight costs or labor to load the catalyst into the SCR reactors. Id. at 15. EPA cannot rely on such arbitrary numbers. PacifiCorp’s catalyst cost numbers were based on S&L’s experience with recent catalyst pricing received from industry vendors, which include freight costs and installation. Id. Moreover, PacifiCorp’s catalyst costs are lower than those used in the examples in the CCM and in EPA’s fact sheet, cited by ATP. Id. S&L’s replacement catalyst costs were extremely conservative, and less than the CCM would allow. Id. Therefore, PacifiCorp’s catalyst costs estimates are reasonable, and EPA’s are not.

Regarding catalyst life and volume, ATP is again wrong. “The amount of SCR catalyst volume required depends on the following design parameters: 1) gas volume, 2) gas temperature, 3) Amount of NO_x removed, 4) catalyst life, 5) fuel properties (which dictate the deactivation rate), and 6) SO₂ to SO₃ oxidation rate. The data included in Andover’s report that they use to conclude S&L’s catalyst volume is over-estimated contains only one of these variables (catalyst life).” See S&L Report at 16. Therefore, ATP’s catalyst volume estimates are based on incorrect assumptions. Also, ATP’s catalyst life data did not include units designed with 32,000 hours of life, which is the design life of Hunter and Huntington SCR reactors. *Id.* Instead, ATP relied on units designed for 16,000 hours of catalyst life. *Id.* Also, ATP incorrectly included “gross output (MW), which is not directly proportional to gas volume in the case of the Hunter and Huntington units, each of which are over 5,600 feet in elevation, and as previously discussed, have significantly higher gas volumes for equivalently rated units located at sea level. For this reason, gross output (MW) cannot be used to compare catalyst volumes for plants that vary in elevation.” *Id.* Additionally, ATP incorrectly calculates catalyst volume and cost by using a NO_x % reduction number, when catalyst volume depends on the gross amount of NO_x removed, not the percentage of NO_x reduction. *Id.* ATP also mistakenly estimated that catalyst deactivation rate would be similar to Eastern Bituminous coal, instead of Western Bituminous coal (which is a more conservative assumption given the “unknowns” involved in using Utah coal). *Id.* at 17. ATP’s mistakes have caused it to reject PacifiCorp’s correct SCR cost estimates, including catalyst costs, and replace them with ATP’s incorrect estimates. Moreover, PacifiCorp’s catalyst volume and life estimates were based on the work done by S&L for PacifiCorp’s Naughton Unit 3 SCR project in Wyoming, and represent practical, relevant and market-based cost estimation experience. ATP was wrong to ignore this data. *Id.*

Also, ATP erroneously claims one SCR reactor can be used instead of two, thereby saving significant costs. ATP Report at 16-18. ATP’s error is based on its fundamental misunderstanding: SCR design is based on the volume of catalyst. ATP’s assumption is completely wrong. Rather, SCR reactor design is primarily based on gas flow and velocity. See S&L Report at 19. ATP’s attempted redesign to one SCR reactor is technically infeasible, resulting in inadequate “residence time” to achieve the required NO_x reduction and causing the catalyst to erode in a very short time, rendering the SCR useless. *Id.* EPA cannot base its SCR cost estimates on an SCR system redesign that is technically infeasible, and would defeat the very purpose of the SCR system. Moreover, neither ATP nor EPA provides a supportable engineering basis for ATP’s attempted redesigns of the SCR reactors.

Finally, ATP objects to PacifiCorp’s SCR cost estimates by claiming that PacifiCorp should have used the costs for regenerated catalyst, instead of new catalyst. ATP Report at 11. S&L has participated “in several catalyst replacement projects in the last year and in each of these projects new catalyst was purchased

for the spare or replacement layer. In addition, due to mechanical degradation of the modules, which cannot be recovered, the mechanical life of regenerated catalyst is much lower than new catalyst and has not been guaranteed to meet the duration which the catalyst is typically expected to remain within the reactor.” S&L Report at 20. Therefore, ATP should not have rejected PacifiCorp’s SCR cost estimates because it did not use regenerated catalyst.

S&L estimates ATP’s SCR design mistake and catalyst cost underestimations changed EPA’s SCR cost estimates by approximately \$18.5 million per Utah BART Unit. S&L Report at 23, tbl 2. EPA’s and ATP’s cost-estimating mistakes regarding the SCR redesign and catalyst costs are material, and invalidate EPA’s FIP Proposal.

g. *ATP wrongly modified ID fan costs in the SCR cost estimates.* ATP claims that PacifiCorp overestimated the costs of ID fans because a smaller fan could be used. ATP Report at 18-19. ATP estimated the cost of the replacement fan by using an algorithm, rather than obtaining a vendor cost estimate. Id. ATP’s ID fan cost estimates are wrong because the new ID fans must handle the entire flue gas flow and be designed to overcome the additional pressure drop from the SCR and the original differential pressure it was designed for (e.g., air preheaters, ESPs, etc.). See S&L Report at 20-21. EPA cannot base its SCR cost estimates on undersized fans.

S&L estimates ATP’s ID fan mistake cost underestimations changed EPA’s SCR cost estimates by approximately \$875,000 per Utah BART Unit.

h. *ATP’s and EPA’s SCR cost estimation mistakes materially affected EPA’s NO_x BART determinations.* Each of the cost estimation mistakes discussed above in paragraphs a-g materially impacted EPA’s NO_x BART cost estimates. For example, ATP’s SCR cost estimate errors result in over \$70 million in excluded capital costs at Hunter Unit 1. See S&L Report at 23, tbl. 2. ATP’s mistakes also resulted in it miscalculating operation and maintenance expenses for the Utah BART Units. Id. As a result, EPA’s NO_x BART determinations (which rely on ATP’s incorrect SCR cost estimates) in its FIP Proposal are flawed and the FIP Proposal should be withdrawn. The cost estimation mistakes identified above in paragraphs a-g materially affect the overall cost of the proposed SCRs, and thereby would also materially affect the “average cost effectiveness” and “incremental cost effectiveness” numbers used by EPA in its justifications for the NO_x BART determinations requiring installation for SCR.

4. *EPA’s cost comparison numbers are inconsistent and do not support EPA’s “cost effectiveness” finding.* As part of an analysis of the “cost” BART factor, a state or EPA needs to determine the “average cost effectiveness” and “incremental cost effectiveness” of the proposed BART control, and then determine if such costs are appropriate given the “reasonable anticipated” visibility improvement. See, e.g., 81 FR at 2037 (Hunter 1). In the FIP Proposal, EPA considered “the costs of compliance

and visibility impacts by generally comparing them with BART determinations that have been made elsewhere.” Id. For example, EPA compared the average and incremental cost effectiveness of SCR at Hunter Unit 1 to average and incremental cost effectiveness numbers for SCR at other, purposefully-selected units: Laramie River Station (Wyoming); Dave Johnston Units 3 and 4 (Wyoming); Hayden Units 1 and 2 (Colorado); and Cholla Units 2, 3, and 4 (Arizona).

Using these four facilities, EPA attempts to create a false standard, acting as if the BART determinations for these facilities are reflective of general cost effectiveness and visibility improvement standards everywhere. This simply isn’t true for several reasons.

First, EPA ignores its own “cost effectiveness” standards used to create the presumptive BART limits, which EPA still uses when setting BART benchmarks for Better than BART analyses. For example, Appendix Y suggests that BART NO_x control costs above \$1,500 per ton are not “cost effective.” In the Preamble to the Regional Haze Rules, EPA suggested that 75% of the EGUs would have BART NO_x removal costs between \$100 and \$1,000 per ton, and almost all of the remaining EGUs could install sufficient BART NO_x control technology for less than \$1,500 per ton.⁴⁹ EPA also recognized in the Preamble that SCR was generally not cost effective for EGUs, except for EGUs with cyclone boilers (where the cost per ton was less than \$1,500 per ton, with an average of \$900 per ton).⁵⁰ Based upon EPA’s Preamble, BART NO_x control technology that costs more than \$1,500 per ton should not be considered “cost effective.” Here, EPA found BART NO_x controls with a “cost effectiveness” number several times \$1,500 per ton to be “cost effective.” EPA

⁴⁹ “The limits provided were chosen at levels that approximately 75 percent of the units could achieve with current combustion control technology. The costs of such controls in most cases range from just over \$100 to \$1000 per ton. Based on our analysis, however, we concluded that approximately 25 percent of the units could not meet these limits with current combustion control technology. However, our analysis indicates that all but a very few of these units could meet the presumptive limits using advanced combustion controls such as rotating opposed fire air (“ROFA”), which has already been demonstrated on a variety of coal-fired units. Based on the data before us, the costs of such controls in most cases are less than \$1500 per ton.” See 70 FR at 39135.

⁵⁰ “We also analyzed the installation of SCRs at BART-eligible EGUs, applying SCR to each unit and fuel type. The cost-effectiveness was generally higher than for current combustion control technology except for one unit type, cyclone units. Because of the relatively high NO_x emission rates of cyclone units, SCR is more cost-effective. Our analysis indicated that the cost-effectiveness of applying SCR on coal-fired cyclone units is typically less than \$1500 a ton, and that the average cost-effectiveness is \$900 per ton. As a result, we are establishing a presumptive NO_x limit for cyclone units based on the use of SCR. For other units, we are not establishing presumptive limits based on the installation of SCR. Although States may in specific cases find that the use of SCR is appropriate, we have not determined that SCR is generally cost-effective for BART across unit types.” 70 FR 39135-36.

simply ignores its previous statements when attempting to establish its newly-minted cost-effectiveness threshold.

Second, EPA pointed only to BART determinations that support its position. EPA has ruled that NOx BART controls, including SCR, with similar “cost effectiveness” numbers as it found for the Utah BART Units were not justified. For example, EPA approved Florida’s BART determination that installing SCR was not “cost effective” when it would cost \$3,776/ton of NOx removed. See 77 FR at 73369-01, 73377. Additionally, in Montana, EPA found that where SNCR+SOFA had an average “cost effectiveness” of \$3,195/ton and \$3,235/ton, the incremental “cost effectiveness” of SCR+SOFA of \$5,770/ton and \$5,887/ton “is not justified.” See 77 FR at 57864-01, 57889. Also, in Nebraska, EPA proposed to agree with Nebraska’s decision to reject SCR at an average cost effectiveness of \$2,297/ton and an incremental cost effectiveness of \$5,445/ton (as calculated by Nebraska). See 77 FR at 12770, 12779. If EPA had selected these comparisons, or others,⁵¹ it would reject SCR as NOx BART at the Utah BART Units. EPA cannot “cherry-pick” favorable comparisons while ignoring unfavorable comparisons in its attempt to create the illusion of legitimacy for its NOx BART determinations in the FIP Proposal.⁵²

EPA attempts to use its “cherry picked” SCR BART determinations as a “metric” that a reader could use to understand how EPA determined BART. Nat’l Parks Conservation Ass’n, 788 F.3d at 1143. But EPA’s previous SCR BART determinations and statements cannot serve as a reliable metric: they are too inconsistent. Id. at 1141 (stating that “inconsistent analysis is arbitrary and capricious”). A reader who reviewed all of EPA’s prior NOx BART determinations would be left entirely unable to predict at what price point EPA will determine that a control technology is not cost effective, or what amount of modeled visibility improvement will trigger a certain technology, or what combination of cost and visibility numbers would result in the installation of SCR as BART. This stems not only from EPA’s inconsistent determinations, but from EPA’s stated unwillingness to provide a bright-line test for determining when a control technology is “cost effective.” See 77 FR at 57864-01 (“While the Regional Haze Rule may allow us to establish a bright line for some of the factors such as cost-effectiveness and visibility, we are not required to do so, and have not done so for this action.”). Further, EPA’s BART determinations rely on its previous determinations in an entirely arbitrary and

⁵¹ EPA previously approved Colorado’s RH SIP in which Colorado determined that SCR is not cost effective when it “exceed[s] a cost of \$5,000 per ton.” 77 FR 18052-01, 18061. Though EPA noted some concerns it had with Colorado’s reasoning, it ultimately approved its determinations, implicitly approving Colorado’s determination that SCR is not cost effective when it exceeds \$5,000/ton. Id.

⁵² Moreover, comparisons with SCR BART determinations for Cholla and Laramie River are suspect for another reason. In both cases, EPA’s SCR BART determinations have been challenged in court and are subject to judicial review. EPA cannot rely on SCR BART determinations that have judicially challenged and have not yet been upheld by a court.

capricious manner, skewing the results by selecting favorable SCR BART comparisons and ignoring unfavorable ones. A metric which conforms to the whims of EPA's current desires is no metric at all. Therefore, EPA should withdraw its FIP Proposal.

Third, EPA's attempted cost and visibility data comparisons between the Utah BART Units, on the one hand, and Cholla, Hayden, and Laramie River, on the other hand, would only work if the SCR cost estimates, visibility analyses, and baseline emissions tests, among other things, were conducted in a similar manner. See e.g., 79 FR at 5032, 5156 ("A proper evaluation of cost-effectiveness allows for a reasoned comparison not only of different control options for a given facility, but also of the relative costs of controls for similar facilities. If the cost-effectiveness of a control technology for a particular facility is outside the range for other similar facilities, the control technology may be rejected as not cost-effective. *In order for this type of comparison to be meaningful, the cost estimates for these facilities must be performed in a consistent manner. Without an "apples-to-apples" comparison of costs, it is impossible to draw rational conclusions about the reasonableness of the costs of compliance for particular control options.*") (emphasis added) However, that is not the case. As explained above, the baseline emissions for Cholla and Hayden were calculated based upon the emissions reductions from relatively recently installed NOx emissions control equipment; here EPA refuses to calculate baseline emissions based upon emissions reductions from relatively recently installed NOx emissions control equipment at the Utah BART Units. EPA also conducted its CALPUFF visibility modeling differently for the Cholla, Hayden, and Laramie River BART determinations, which could materially impact the outcomes.⁵³ Also, ATP and EPA refused to consider certain CMM allowed costs and its expert "redesigned" the SCR reactors for Hunter and Huntington. EPA did not take the same SCR cost-estimating approach at Cholla, Hayden, or Laramie River.⁵⁴ As a result, EPA cannot compare costs between the Utah BART Units and EPA's "cherry-picked" units because EPA

⁵³ Given the unique manner in which EPA conducted the CALPUFF visibility modeling for the FIP Proposal, it is highly unlikely that EPA conducted the CALPUFF modeling for SCR at Hayden, Laramie River, or Cholla in this same fashion. If the CALPUFF modeling for Hayden, Cholla, and Laramie River were not completed in the same manner as Hunter and Huntington, using the same background concentrations for ammonia, relative humidity, and other key inputs, as well as the way manner in which the model included other sources, then EPA is unable to make meaningful comparisons between the CALPUFF modeling results. In its FIP Proposal, EPA makes no attempt to explain whether or not the CALPUFF modeling runs were conducted in a similar fashion for the Cholla, Hayden, and Laramie River plants on the one hand and the Utah BART Units on the other hand.

⁵⁴ Other material differences exist between the cost estimates EPA attempts to compare. For example, EPA, after prompting from Laramie River's owner, considered the impact site elevation has on SCR cost. 79 FR 5032, 5180. EPA has not properly considered the impact site elevation has on SCR costs at the Utah BART Units.

used different and inconsistent methods to calculate SCR costs and visibility improvement, making comparisons superficial and unpersuasive.

C. Energy and Non-Air Quality Environmental Impacts.

Each BART determination, including EPA's, must include a review of the energy and non-air quality related environmental impacts. 42 U.S.C. § 7491(g)(2). EPA's FIP Proposal is defective because EPA failed to properly evaluate the "energy" and "non-air quality environmental" factors for the Utah BART Units. Utah's previous BART determinations found these impacts weighed against SCR as NO_x BART; but, without explanation or conducting its own analyses, EPA found these impacts did not prohibit the selection of SCR. This EPA cannot do.

1. The BART Guidelines require this factor be considered. The BART Guidelines provide the methods EPA must employ when considering the energy and non-air quality environmental impacts of NO_x control options in a BART determination. See 70 FR at 39104-01, 39169. Among other considerations, the BART Guidelines provide that EPA "should identify any significant or unusual environmental impacts associated with a control alternative that have the potential to affect the selection or elimination of a control alternative." *Id.* The Guidelines elaborate that "these types of environmental concerns become important when sensitive site-specific receptors exist or when the incremental emissions reductions potential of the more stringent control is only marginally greater than the next most-effective option." *Id.* Given that EPA's FIP Proposal is based on a miniscule, modeled 0.14 dv visibility improvement over the SIP Proposal, based on the 98th percentile test, this provision of the Guidelines is particularly applicable and non-air quality environmental impacts and energy impacts must be closely reviewed as part of EPA's NO_x BART determinations for the Utah BART Units. EPA failed to do so here.
2. EPA did not properly analyze non air quality environmental impacts. Here, EPA arbitrarily and capriciously failed to adequately address the non-air quality environmental impacts of SCR. See, e.g. 81 FR at 2004, 2035 (Hunter 1).⁵⁵ Though EPA admitted that SCR decreases the thermo efficiency (affecting energy use and greenhouse gas emissions) and increases "the quantity of ash that will need to be disposed," EPA conducted almost no analysis. *Id.* at 2035. EPA did not identify or quantify the "solid, liquid, and gaseous discharges from the control device or devices under review," as required by the Guidelines. See 70 FR at 39104-01, 39169. EPA did not analyze "discharges with potential for causing adverse environmental effects." *Id.* Nor did EPA "assess the mass and composition of any such discharges and quantify them to the extent possible based on readily available information." *Id.* Rather, after conducting almost no analysis, EPA concludes that "non-air quality environmental impacts [are] insufficient to eliminate or weigh against any of the

⁵⁵ While PacifiCorp uses Hunter 1 as an example of EPA's failure to consider the energy and non-air quality environmental impacts, these arguments apply to EPA's NO_x BART determinations for all the Utah BART Units.

BART options.” See 81 FR at 2004-01, 2035. This conclusion, lacking sufficient supporting analysis, violates EPA’s own rules. By failing to provide any applicable metric, failing to explain why it has exercised its discretion in this manner, and failing to follow the BART Guidelines, EPA’s proposed RH FIP is arbitrary and capricious and should be withdrawn. Nat’l Parks Conservation Ass’n, 788 F.3d at 1141.

Moreover, EPA’s SCR cost estimates are based upon a complete redesign of the SCR system, and are materially different from that contemplated by PacifiCorp’s and Utah’s SCR BART analyses. See ATP Report at 11-18. Therefore, EPA cannot rely on PacifiCorp’s and Utah’s previous SCR BART analyses to determine the non-air quality environmental and energy impacts for EPA’s SCR BART determinations. New analyses of this statutory BART factor, in accordance with the BART Guidelines, must be undertaken by EPA to address the proposed SCR reactor design that it proposes.

3. EPA did not properly consider SCR’s energy impacts. In its FIP Proposal, EPA should have considered three types of energy impacts. These include the energy associated with operating the controls, the energy that must be provided when the unit is removed from service in order to install the controls, and most importantly to the state of Utah and its citizens, the energy that must be replaced when the emissions controls prescribed for a given unit are not economically justifiable and result in accelerated unit retirements and replacements.⁵⁶

The latter energy impact is of particular concern because the EPA has now proposed SCR controls for the Utah BART Units. Unlike the SIP Proposal, the EPA’s FIP Proposal requires controls that may not be justifiable and could result in accelerated unit retirements and replacements, potential natural gas conversions, and the associated costs and socio-economic impacts of removing major coal-fueled generation resources from service in areas of Utah that rely heavily on these facilities. If EPA intends to finalize its FIP Proposal that potentially could force the retirement, replacement, or natural gas conversion of the Utah BART Units, its five-factor analysis must include a thorough analysis of the system-wide energy impacts these individual unit compliance requirements will have on the states within which PacifiCorp serves customers. When considering the FIP Proposal, EPA must include in its evaluation of energy impacts and their associated costs the impacts to local jobs and state and local economies surrounding the affected facilities.

With retirement, replacement, or natural gas conversion of individual units a potential outcome due to EPA’s FIP Proposal, EPA’s assessment must include coordination with state regulators, environmental agencies and elected officials. As a regulated utility, PacifiCorp regularly engages with state regulators and elected officials to ensure that its resource planning and ultimate compliance approaches align with the interests of customers in the states it serves. These same state bodies and elected

⁵⁶ 40 CFR 50 Appendix Y D.IV.h.5

officials must be consulted by EPA to ensure that EPA's FIP Proposal is properly assessed in light of the issues described above.

As Powder River Basin Resource Council pointed out in its post-hearing brief filed in April 2013 before the Wyoming Public Service Commission in PacifiCorp's application filing to obtain approval for a Certificate of Public Convenience and Necessity to Construct Selective Catalytic Reduction systems on Jim Bridger Units 3 and 4, "it is evident that considering the cost and risk of these major environmental control projects up front, prior to installation, is a benefit to parties, ratepayers, and the public interest. These projects are significant undertakings – in some cases they are close to the financial equivalent of building new generation sources – and therefore they deserve a high level of scrutiny to ensure that the public's interests, and especially the specific financial interests of PacifiCorp ratepayers, are protected."⁵⁷ EPA is expected to obtain the same level of coordinated review.

D. Visibility Improvement

Every BART determination requires an analysis of the "reasonably anticipated" visibility improvements. 42 U.S.C. § 7491(g)(2). EPA's BART visibility improvement analyses for its FIP Proposal fail in several respects, and thus fail to meet the statutory requirements.

When EPA conducted its "reasonably anticipated" visibility improvement analyses for its NO_x BART determinations of the Utah BART Units, EPA relied exclusively on computerized modeling results, using the CALPUFF model. See 81 FR at 2033. EPA did not use Utah's previous CALPUFF modeling to support its FIP Proposal,⁵⁸ instead EPA

⁵⁷ See Powder River Basin Resource Council's Post-Hearing Brief in Wyoming Public Service Commission Docket No. 20000-418-EA-12 (RECORD NO. 13314) at: <http://edocs.puc.state.or.us/AD9EAE92-D6A8-4C0E-81D1-DB442CFB2244/FinalDownload/DownloadId-DCE8BAB12B5061CB4017455D76704E32/AD9EAE92-D6A8-4C0E-81D1-DB442CFB2244/efdocs/HBC/ue246hbc75023.pdf>

⁵⁸ Proper conclusions can be reached when evaluating the results of visibility modeling if one understands the limitations of the models, the characteristics and limitations of the inputs entered into the models, the capabilities of the model versions being used and then applies reasonable judgment to the results. Utah created its SIP Proposal based on the modeling protocols and versions required by EPA. In proposing its SIP Proposal, Utah evaluated the CALPUFF model output with an understanding of the model's limitations. Utah then applied its judgment and experience in comparing the model results to actual monitored data, as encouraged by EPA's guidelines and the CAA. Utah's approach helped mitigate the problems associated with the CALPUFF visibility model's documented tendency to greatly over-predict the visibility improvement associated with BART controls. In fact, Utah analyzed other scientific data to determine the impacts of SO₂ and NO_x emissions from the BART units, and used that information in determining the amount of weight to give CALPUFF modeling results. Contrary to this approach, EPA interpreted the CALPUFF modeling results as "absolute" and unquestioningly accurate numbers that EPA then relies on to justify costly NO_x BART controls that in reality will provide no "reasonably anticipated" visibility benefit.

“developed separate CALPUFF modeling for this purpose.” *Id.* In fact, although Utah’s CALPUFF modeling assessed the “combined impacts of all of the BART and non-BART sources included in the BART Alternative,” EPA mistakenly only modeled “the impacts of the individual BART sources.” *Id.* EPA also claims that, beyond “assessing impacts from individual BART sources and evaluating all technically feasible control options,” EPA’s modeling was “otherwise very similar to that employed by Utah.” *Id.* Again, EPA is mistaken.

In short, EPA’s NO_x BART determinations in its FIP Proposal, particularly the visibility analyses, are fatally flawed because EPA relied on CALPUFF modeling results without considering: (1) the limitations of the CALPUFF v. 5.8 model; (2) the CALPUFF model’s related “margins of error;” (3) EPA’s mistakes running the CALPUFF model; and (4) actual monitored data and other data that called into question EPA’s ability to solely rely on the CALPUFF modeled results without accounting for the model’s limitations.

1. *EPA failed to consider the limitations of the CALPUFF model.* In conducting its BART visibility improvement analyses for the Utah BART Units in the FIP Proposal, EPA treats the relative small CALPUFF modeled visibility improvements as concrete and unassailable. See e.g., 81 FR at 2035 tbl. 15; at 2036 tbls. 16, 17, and 18; at 2037 (for the Hunter 1 Unit).⁵⁹ EPA relies solely on CALPUFF modeled visibility improvements as the basis for its visibility improvement analyses in the FIP Proposal. See, e.g., 81 FR at 2037. However, EPA’s BART visibility analyses in the FIP Proposal fail to recognize the known and documented limitations on the CALPUFF model. Rather, EPA treats the results from the CALPUFF visibility modeling as being capable of accurately predicting visibility improvements down to the tenths or hundredths of a deciview (when one deciview is considered what is humanly perceptible). As applied by EPA here, the CALPUFF model is not that accurate. Also, EPA assumes that a CALPUFF modeled difference of 0.1, 0.2, an even 0.9, deciviews is material in the FIP Proposal. Given the applicable margins of error, it is not. The reality is that computer models predicting visibility impacts from a given source, including CALPUFF, are relatively imprecise and easily influenced by the choice of inputs and parameters.

a. CALPUFF is woefully imprecise. Gale F. Hoffnagle, an expert air quality modeler at TRC Environmental Consultants,⁶⁰ summarizes in his report, attached as Attachment 3, the limitations of the CALPUFF model.⁶¹ Mr. Hoffnagle’s

⁵⁹ EPA treats the CALPUFF modeled visibility improvement results as concrete and unassailable for all the Utah BART Units, and the arguments herein regarding EPA’s visibility improvement analyses apply to all of the Utah BART Units.

⁶⁰ Mr. Hoffnagle’s curriculum vitae is attached as Attachment 6.

⁶¹ Mr. Hoffnagle is a CALPUFF modeling expert. His CALPUFF “margin of error” report was part of the information that the Ninth Circuit Court of Appeals found EPA should have considered and accounted for in Nat’l Parks. In that case, the court stated “it is no answer to respond, as EPA did, that low levels of visibility impairment must be

Report states that the studies EPA relied upon to support the use of CALPUFF (v. 5.8) model for regional haze purposes demonstrate that the CALPUFF results (at 100km) were “35%, 5%, or 250% too high, average 96% too high and has a mean error rate of 96%.” See Hoffnagle Report at 6. In other words, some of the studies EPA relied on to justify the use of the CALPUFF v. 5.8 model show CALPUFF grossly overstates visibility improvements. Mr. Hoffnagle further explains that two other studies (Savannah River and Great Plains) used by EPA to justify the use of the CALPUFF v. 5.8 model show that “there is an error rate of 79% and always greater than the measured concentration.” *Id.* at 7. “The ‘margin of error’ identified in the aforementioned studies is hereafter referred to as the ‘transport/diffusion margin of error’ because these studies measured CALPUFF v. 5.8’s accuracy relative to long-range transport and diffusion.” *Id.* Additional studies and reports have also raised questions about the transport/diffusion margin of error for CALPUFF, and a review of all the studies together by Environ suggests the transport/diffusion margin of error “for CALPUFF version 5.8 is around 70% for the maximum observed concentration with many signals that the error is higher. The error is always on the high side and we can say little about the margin of error beyond 100 kilometers.” Hoffnagle Report at 8-9. Clearly, EPA cannot, as it did in its FIP Proposal, simply rely on CALPUFF’s excessively high, modeled results in light of the transport/diffusion margin of error. Instead, EPA should have made appropriate adjustments in its analysis of the CALPUFF modeled results to account for the transport/diffusion margin of error so that EPA “reasonably anticipates” any visibility improvements associated with EPA’s proposed NO_x BART determinations. 42 U.S.C. § 7491(g)(2); Nat’l Parks Conservation Ass’n, 788 F.3d at 1147. EPA did not do so here.

b. EPA did not account for “atmospheric chemistry margin of error” CALPUFF also has severe limitations in modeling the atmospheric chemical changes that are necessary for NO_x to become a visibility-impairing particulate. As Mr. Hoffnagle’s Report explains, the “margin of error is also affected by the atmospheric chemistry which occurs along the path to the Class I area.” See Hoffnagle Report at 9. As an expert in this area, Mr. Hoffnagle has previously “performed and presented to the State of Colorado a comparison of the measured versus modeled nitrate component of the deciview impact from the Craig Station some 98 kilometers to the Mount Zirkel Wilderness Area.” *Id.* Mr. Hoffnagle compared “the daily nitrate concentration measured at the Mount Zirkel Wilderness Area to the CALPUFF modeled daily concentration of nitrate particles at that measurement location.” *Id.* As a result of this study, Mr. Hoffnagle concluded that CALPUFF’s atmospheric chemistry margin of error in that study

addressed even though they are not perceptible to the human eye, or that measures had been taken to minimize the margin of error. The issue is not the *perceptibility* of the proposed improvements, but the model’s ability to anticipate improvements at a level allegedly within its margin of error, whether perceptible or not to the human eye. EPA simply offered no response to this objection.” Nat’l Parks Conservation Ass’n v. E.P.A., 788 F.3d 1134, 1147 (9th Cir. 2015).

was “at least 1,000% in calculating nitrate contribution to visibility impairment. This is a clear indication that the margin of error increases substantially when the atmospheric chemistry part of the calculation is included.” Hoffnagle Report at 10. Again, EPA’s FIP Proposal failed to account for either the transport/diffusion margin of error or the atmospheric chemistry margin of error, and EPA blindly relies on overstated CALPUFF modeling results without any adjustments for model inaccuracies. As a result, EPA’s FIP Proposal is unsupportable and should be withdrawn. See Nat’l Parks Conservation Ass’n, 788 F.3d at 1147.

c. *The transport/diffusion and atmospheric chemistry margins of error materially change EPA’s visibility analyses*. When the appropriate “margins of error” are applied to EPA’s CALPUFF modeling results in the FIP Proposal, the alleged “substantial visibility benefits” (81 FR at 2038) EPA relied on to justify its FIP Proposal disappear. For example, EPA’s CALPUFF modeled visibility improvement results related to the installation of LNB/OFA/SCR (EPA’s NOx BART determination) at Hunter Unit 1 indicate a 1.34 dv improvement at Arches, 1.55 dv improvement at Canyonlands, and a 1.11 dv improvement at Capitol Reef. See 81 FR 2 035, tbl 15. These results lead EPA to conclude the comparisons “show that costs are justified in light of the substantial visibility benefits.” Id. at 2038. However, these “substantial visibility benefits” disappear when the proper “margins of error” are applied. In Mr. Hoffnagle’s Report, after applying the transport/diffusion margin of error and the atmospheric chemistry margin of error, the CALPUFF modeled visibility improvements shrink to an inconsequential 0.16 dv for Arches, 0.18 dv for Canyonlands, and 0.16 dv for Capitol Reef. See Hoffnagle Report at 19, tbl 8. Likewise, EPA’s CALPUFF modeled visibility improvement results related to the installation of LNB/OFA/SCR (EPA’s NOx BART determination) for Huntington Unit 1 indicate a 1.49 dv improvement at Arches, 1.88 dv improvement at Canyonlands, and a 1.11 dv improvement at Capitol Reef. See 81 FR 2043, tbl. 27. In Mr. Hoffnagle’s Report, after applying the transport/diffusion margin of error and the atmospheric chemistry margin of error, the visibility improvements shrink to an inconsequential 0.15 dv for Arches, 0.19 dv for Canyonlands, and 0.12 dv for Capitol Reef. See Hoffnagle Report at 19, tbl 9. Clearly, these miniscule visibility improvements would not justify the tremendous costs imposed by EPA’s FIP Proposal. EPA’s FIP Proposal is flawed and unsupportable because it failed to consider the CALPUFF modeled visibility improvement results in light of the proper margins of error, which drastically affect the results.⁶² At least one federal

⁶² Additionally, the monitored data demonstrates that the SCRs required by the FIP Proposal essentially would have no impact. EPA found in its proposed rulemaking that “visibility benefits associated with NOx reductions are more likely to occur in the winter months because this is when aerosol thermodynamics favors nitrate formation.” 81 FR at 2031. Therefore, the SCRs that would be required by EPA’s FIP Proposal, which are designed to reduce NOx, would be of greatest benefit in the winter months. However, EPA fails to recognize or consider the monitored data which demonstrates that nitrates have very little impact on visibility impairment during the 20% best days, which often

court has rejected an EPA regional haze FIP because EPA failed to account for the CALPUFF model's limitations (specifically the margin of error) when EPA formulated its BART determinations. Nat'l Parks Conservation Ass'n v. E.P.A., 788 F.3d 1134, 1147 (9th Cir. 2015). Therefore, EPA's FIP Proposal should be withdrawn.

d. EPA should have used the improved CALPUFF version. CALPUFF version 5.8.4, used by EPA to support its FIP Proposal, is not the latest and most accurate version of CALPUFF. As Mr. Hoffnagle explains, the owners of CALPUFF "have prepared more advanced versions of CALPUFF that have not been adopted by EPA. The focus of these advancements have been in providing better atmospheric chemistry based on twenty years of advancement in atmospheric chemistry science. AQMG [EPA] has steadfastly refused to give anything more than acknowledgement to these advancements and yet continuously criticizes CALPUFF for not having advanced chemistry." See Hoffnagle Report at 7.

Air modeling experts have determined that CALPUFF version 6.42, with a variable ammonia background setting, updated chemistry module, and Method 8 of CALPOST is the "best" science when it comes to modeling for regional haze. CALPUFF Version 6.42 produces more realistic and accurate results. *See* Paine, B, Connors, J, "Response to Prehearing Statements: Martin Drake Power Plant Best Available Retrofit Technology Rulemaking Hearing," November 20, 2010, attached as Attachment 7. Version 6.42 contains needed refinements, such as a better "chemistry" module known as ISORROPIA (Version 2.1). *Id.* Additionally, CALPUFF Version 6.42 has been maintained by TRC and has had many bug fixes and enhancements not included in CALPUFF Version 5.8.4. *Id.*

Contrary to its own guidance, in support of its FIP Proposal EPA failed to use a more realistic air quality model (CALPUFF version 6.42) than the outdated CALPUFF version 5.8. Appendix W, EPA's modeling guidance, demands that the "best" model should be used. EPA failed to use the "best" model in its FIP Proposal. Therefore, EPA failed to follow Appendix W's requirements. App. W.1.0.e ("(I)n all cases, the model applied to a given situation should be the one that provides the most accurate representation of atmospheric transport, dispersion, and chemical transformations in the area of interest."); App. W.1.0.d ("The model that most accurately estimates concentrations in the area of interest is always sought.") (emphasis added). EPA's outdated modeling approach relying on CALPUFF version 5.8.4, fails to meet the requirements of Appendix W.⁶³

occur in the winter months. See Hoffnagle Report at 11, tbl. 2. EPA should have considered this point in its FIP Proposal, and did not.

⁶³ Interestingly, EPA has proposed that the BART Guidelines "no longer contain language that requires the use of CALPUFF or another Lagrangian puff model for long-range transport assessments." 80 FR 45340, 45349. In that proposed rulemaking, EPA

In its FIP Proposal, EPA did not use the “best” model (CALPUFF v. 6.42) or account for the flaws and limitations of the model it used. However, EPA claims to use the draft 2015 revisions to the CCM to reflect updated SCR cost analyses. See, e.g., 81 FR at 2032. It is arbitrary and capricious to use a draft, updated cost manual but not use an updated, proven visibility model.

2. EPA’s background ammonia concentration used in its CALPUFF modeling skews EPA’s BART visibility improvement analyses. Regional haze modeling – and the resulting predicted visibility improvement – is greatly influenced by the background ammonia number used in the model.⁶⁴ See Hoffnagle Report at 12. EPA improperly used a constant 1 ppb background ammonia number for its CALPUFF modeling for the Utah BART Units,⁶⁵ which greatly overestimated the “reasonably anticipated” visibility improvements from SCR. Id. EPA should have used available ammonia monitoring data in its modeling. EPA’s failure to use this ammonia monitoring data “is unscientific and not supportable.” Hoffnagle Report at 12.

In fact, instead of the constant 1 ppb ammonia number used by EPA, which Mr. Hoffnagle describes as “bad science” due to its failure to account for low winter ammonia levels, the “best” science requires the use of “variable ammonia” background numbers. Id. Given its geographic location and elevation levels, Utah undergoes seasonal swings of dry-hot summers (with higher ammonia levels) and snow-covered ground in the winter (with lower ammonia levels). Id. Therefore, the use of a single ammonia concentration for the entire year in a state where the land use and land cover changes significantly between seasons results in the overestimation of visibility improvements. (See e.g., July 2, 2010 letter and attachment from Tri-State Generation to Colorado Air Pollution Control Division, discussing Mt. Zirkel area,

admits the “availability of more appropriate modeling techniques, such as photochemical transport models (which address limitations of models like CALPUFF).” Id. Yet, in its FIP Proposal, EPA failed to use a “more appropriate” model, such as a “photochemical transport model,” or to even recognize the “limitations of models like CALPUFF.” EPA’s NO_x BART determinations are invalid as a result.

⁶⁴ Sensitivity tests on ambient ammonia concentrations were performed by the Colorado Department of Public Health and Environment for an area in northwest Colorado. See Attachment 8. The analysis demonstrated that visibility calculations performed at Mount Zirkel Wilderness Area in northwest Colorado had limited impact when ambient ammonia concentrations were reduced from 100 to 1 ppb, but there was a significant reduction in visibility impacts when concentrations were further reduced to 0.1 ppb. Given the evidence presented above, the use of the monthly varying ammonia would provide much more accurate estimates of visibility impacts from the Utah BART Units. EPA’s failure to use the “best science,” variable background ammonia in its modeling, is arbitrary and capricious.

⁶⁵ EPA’s refusal to use a “variable ammonia” number in its CALPUFF modeling for the FIP Proposal is very curious given EPA’s “required use of monthly average relative humidity and hourly average ozone concentration data” in its model. See Hoffnagle Report at 12. The arguments EPA has used to justify a static, annual average for background ammonia apply with equal force to relative humidity and ozone. Id.

Attachment 8) “This means that exactly when nitrates are expected to form, in the colder months, there is much less (10-50% of the 1 ppb used in the modeling) ammonia available. . . . This wintertime deficit of ammonia is exactly why the EPA annual average ammonia background is bad science. It should be taken into consideration that the sulfur and nitrogen compete for the available ammonia, and in fact the sulfur wins especially during the summer.” Hoffnagle Report at 12. EPA should have used the available background ammonia information, such as the information represented in the graphs on page 13 of the Hoffnagle Report, to run the CALPUFF model to determine the true impact of EPA’s FIP Proposal.

Moreover, EPA has approved the use of variable gaseous ammonia concentrations in CALPUFF modeling before, including the Addendum to Modeling Protocol for the Proposed Desert Rock Generating Station (ENSR, 2006).

(<http://www.epa.gov/region9/air/permit/desertrock/administrative.html>). EPA Region 8 admitted the validity of using “variable ammonia” for CALPUFF modeling in its federal implementation plan for Montana, where EPA used “variable ammonia” in its CALPUFF modeling. 77 FR at 57867. (“As a result, we did not assume a constant level of ammonia as asserted by the commenter, and we did represent seasonal variability in ammonia concentrations. Additionally, EPA used the POSTUTIL program ” with the Ammonia Limiting Method (ALM) to post-process the CALPUFF output to correct the assumption of constant ammonia availability in the model.”). EPA also applied “variable ammonia” amounts when analyzing regional haze and BART issues in Wyoming. EPA Region 8 evaluated background ammonia concentrations for Wyoming in the updated CALPUFF modeling as a result of comments received on EPA Region 8’s revised proposal published in June 2013. 79 FR at 5032, 5111. EPA admitted in Wyoming that an “accurate specification” of background ammonia is “critical to the accurate estimation of particulate nitrate concentrations.” Id. at 5112. EPA also suggested that an “overestimate [of] the regional background concentration” would also result in the “overestimate [of] the visibility benefit due to NO[x] reductions.” Id. at 5113. In fact, EPA claimed in Wyoming that the “*use of more realistic ammonia background concentrations*, the ammonia limiting correction, and the use of the 98th percentile modeled impact address the concern that the CALPUFF model could overestimate visibility impacts.” Id. at 5,117.

Given EPA’s recognition of the need to properly represent seasonally-variable background ammonia levels in CALPUFF modeling for sources in Wyoming, Montana, and Arizona, EPA should do the same here. In particular, where EPA relies on BART comparisons from power plants in Wyoming and Arizona to justify its FIP Proposal, EPA must ensure the CALPUFF visibility modeling (including the associated impacts of background ammonia) supporting EPA’s FIP Proposal is similar to that done in Wyoming and Arizona. Moreover, EPA’s failure to use seasonally-variable background ammonia levels in its CALPUFF modeling to support

its FIP Proposal skews the results of EPA's BART visibility improvement analyses. EPA's inconsistent actions in this regard are arbitrary and capricious.

3. EPA applies the CALPUFF model to Class I areas that are beyond the model's geographic capabilities. In its FIP Proposal, EPA indicates that it applied the CALPUFF model to 9 Class I areas, some of which are almost 300 kilometers or more distant from Utah's BART Sources. See e.g., 81 FR at 2035-36. EPA relied upon modeled "visibility improvements" in all nine Class I areas to justify its FIP Proposal. Id. at 2036-38. However, as explained above, CALPUFF has a large margin of error at 100 km and the inaccuracy likely grows at greater distances. The CALPUFF model "is not demonstrably valid beyond 100 kilometers and we can judge its margin of error at that distance but not beyond." See Hoffnagle Report at 12. As Mr. Hoffnagle explains, only three of the nine Class I areas addressed in EPA's FIP Proposal are within a distance where we can rely upon the results for gaseous concentrations to be within a range where we know the margin of error. Id. Therefore, EPA's FIP Proposal is invalid because it relies on CALPUFF modeled visibility improvements at Class I areas at distances up to 300 kilometer without making any adjustments or allowances for the impact of distance on these results, or by referring to monitored data to check the validity of the results.

4. EPA made material, problematic changes in its modeling that prohibit comparisons with other modeling runs. EPA also claims that, beyond "assessing impacts from individual BART sources and evaluating all technically feasible control options," its modeling was "otherwise very similar to that employed by Utah." 81 FR at 2033. Again, EPA is mistaken. EPA's CALPUFF modeling: (1) modeled different sources than Utah's modeling; and (2) used different assumptions about the amount of sulfate, nitrate, and particulate emissions. See Hoffnagle Report at 15-16.

a. Modeling only individual BART Units resulted in erroneous modeling results and unsupportable BART visibility improvement analyses. EPA admits that its CALPUFF model only included the "the impacts of the individual BART sources." See 81 FR at 2033. EPA also admits it determined a "source's" impact (two units at the same facility) by "summing the per unit improvements from Units 1 and 2" of Hunter. See e.g., 81 FR at 2037. This was a mistake. EPA should have modeled all four Utah BART Units together with SCR controls and two units at the same source (power plant) together with SCR controls. "When all the plants are run together the model would show a far smaller deciview impact than any additive result of running them separately. Each plume competes for the relatively small amount of ammonia assumed in the model. Once the ammonia is gone no more nitrate can be produced." See Hoffnagle Report at 15.

EPA claims in its FIP Proposal that a BART analysis must include "consideration of the visibility improvement from BART applied to the subject-to-BART source as a whole." See 81 FR at 2033. However, this is not how EPA conducted its CALPUFF modeling. EPA did not conduct CALPUFF modeling for the "subject-to-BART source as a whole," but rather conducted CALPUFF modeling

individually for each BART unit. EPA cannot simply “add” modeled visibility improvement numbers for each unit at a source to determine the source’s impact; CALPUFF modeled results are not linear. Rather, the impact of the combined units’ emissions must be considered by the CALPUFF model because of the atmospheric chemistry and the limiting factors (such as ammonia, etc.) on visibility impacts.

EPA also improperly excluded the reductions from the closure of the Carbon plant and reductions from Hunter Unit 3 when it conducted its CALPUFF modeling. “EPA’s model runs never include the Carbon Plant and thus miss the reductions in nitrate and, more importantly, sulfate that occur because of those reductions.” Hoffnagle Report at 15-16. Refusing to recognize Hunter Unit 3’s installed emissions controls “skews the analysis in favor of more visibility improvement for the single unit SCR.” *Id.* EPA’s BART visibility analyses are invalid because the CALPUFF model runs did not include all Utah BART Units together, or as sources, or Carbon, or Hunter Unit 3, which skewed the results.

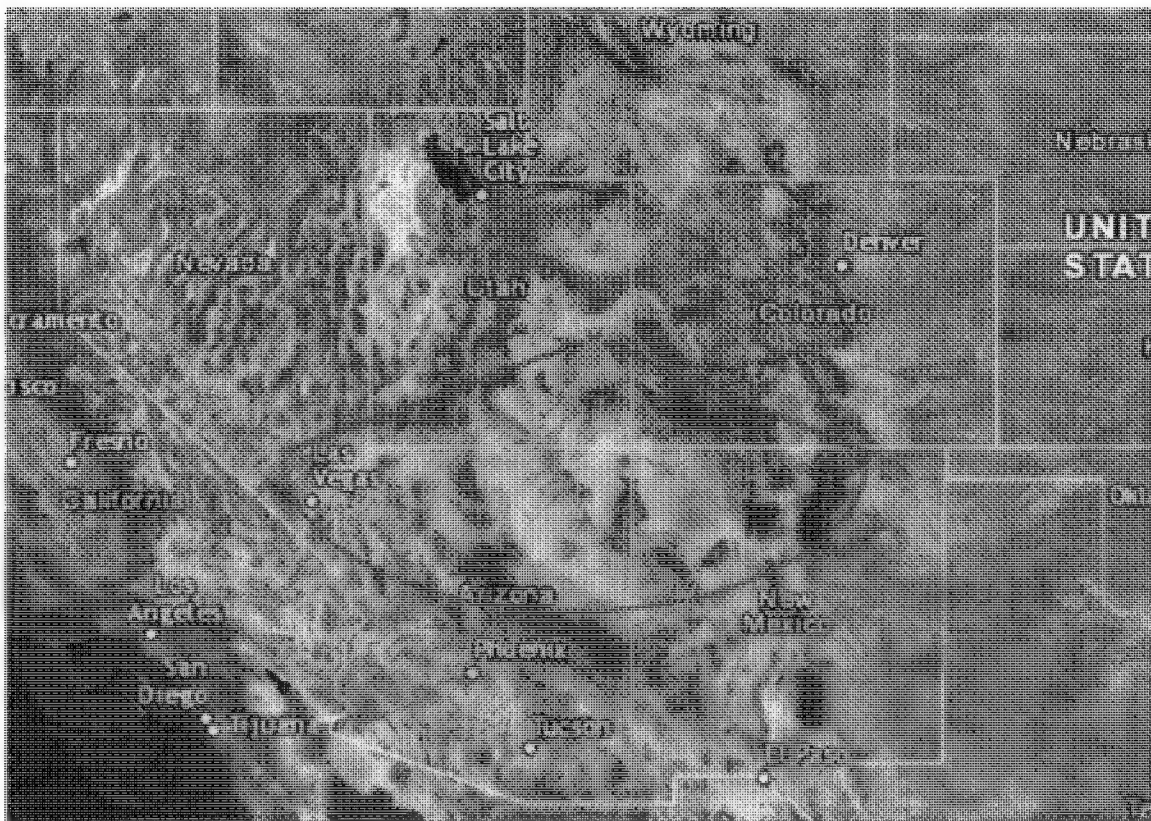
b. *EPA failed to include sulfate and particulate matter emissions from the Utah BART Units when modeling.* For some unknown and unsupportable reason, EPA reduces stack emissions of sulfate and particulate matter to almost zero in the EPA’s CALPUFF modeling for the Utah BART Units. See Hoffnagle Report at 16. This modeling mistake “enhances the decrease in deciviews from EPA’s model runs attributed to the use of SCR perhaps to a significant extent.” *Id.* EPA also reduces sulfates, particulate matter, and nitrates emissions for Hunter Unit 3. These unexplained changes “are reason to call EPA’s benefits from SCR into question.” *Id.* EPA’s BART visibility analyses are invalid as a result, as is EPA’s FIP Proposal.

5. *When conducting its NOx BART determinations, EPA failed to consider the limited impact of further NOx reductions.* Finally, EPA’s BART-related visibility analyses in the FIP Proposal are also flawed because they fail to account for the limited visibility impacts from NOx emissions in the relevant Class I areas. As EPA itself admits in the FIP Proposal, “anthropogenic visibility impairment on the Colorado Plateau is dominated by sulfates . . . sulfate is the largest contributor to visibility impairment at the affected Class 1 areas.” See 81 FR at 2031. Additionally, EPA has found that “visibility benefits associated with NOx reductions are much more likely to occur in the winter months because this is when aerosol thermodynamics favor nitrate formation. By contrast SO2 emission reductions should provide visibility benefits in all seasons.” *Id.* More importantly, as EPA is well aware, the State of Utah has determined based on its review of the data that “the visibility improvement during the winter months due to NOx reductions is much more uncertain.” *Id.* EPA further admitted that the State of Utah had presented evidence that “while there has been a reduction in NOx, the ammonia nitrate values do not show similar improvement in the winter months.” *Id.*

At a minimum, in its FIP Proposal EPA should have considered the fact that Utah had determined that NO_x reductions did not seem to correlate to visibility improvement during the winter months, that sulfates are the largest contributors to visibility impairment, and that legitimate questions exist about whether or not further NO_x reductions in the form of SCR at each Utah BART Unit would in fact improve actual visibility in the subject Class I areas. While EPA discussed these matters as part of the SIP Proposal, EPA inexplicably failed to consider these facts as part of its FIP Proposal. Such action was arbitrary and capricious.

Additionally, in its FIP Proposal, EPA also should have considered the relevant visibility data and information Utah provided to EPA in its Progress Report for Utah's State Implementation Plan for Regional Haze, dated September 23, 2014 ("Progress Report"), Attachment 9. For example, as a result of the Progress Report, EPA is fully aware that Utah's "2008 BART determination has been fully implemented and significant reductions of NO_x, SO₂, and PM have already been achieved." Progress Report at 1. Additionally, the Progress Report explains that three Utah Class I areas show visibility improvement on the most impaired days, and for the two that do not show improvement, the "largest contributor to increases at these sites was particulate organic mass which was associated with large fire events." Id. at 3. The Progress Report also finds that generally "the largest contributors to aerosol extinction at Utah sites were particulate organic mass, ammonium sulfate and coarse mass." Id. at 13. The Progress Report contains other information indicating the relatively minor role NO_x plays in visibility impairment in Utah's Class I areas, and the Progress Report identifies all of the categories of NO_x emission sources (of which the Utah BART Units are but one part of one category). Id. at 25, tbl. 3.8. Unfortunately, EPA's FIP Proposal never discusses or considers the information from the Progress Report, including whether EPA can "reasonably anticipate" visibility improvement from EPA's NO_x BART determinations (SCRs) given the impact from fires, the relatively small impact nitrates have on visibility, and the relatively minor contributions the Utah BART Units make towards the total NO_x emissions that affect the Utah Class I areas. Without considering these issues, EPA cannot truly fulfill its statutory mandate to determine whether or not EPA can "reasonably anticipate" visibility improvement from its FIP Proposal.

6. EPA Failed to Consider Wind Direction Data – The following chart represents the wind direction for the 2001-2003 20% worst days when the nitrate contribution to haze was equal to or greater than 0.5 deciviews. See Attachment 10. The wind direction for these 20% worst days ranged from 115 degrees to 249 degrees. As can be seen, the prevailing winds do not come from the direction of the Utah BART Units. Therefore, EPA cannot "reasonably anticipate" visibility improvement on the 20% worst days resulting from the installation of the BART Benchmark at the Utah BART Units. This failure alone invalidates the FIP Proposal.



In short, EPA's visibility improvement analyses used to support its FIP Proposal are fatally flawed and cannot be used to support the NO_x BART determinations.

V. EPA'S FIP PROPOSAL IS UNNECESSARY BECAUSE EPA ALREADY FOUND UTAH IS MAKING THE REQUIRED "REASONABLE PROGRESS."

States and EPA do not make BART determinations in a vacuum but within a framework carefully crafted to make "reasonable progress" towards the statute's national visibility goal. As part of that framework, Congress directed EPA to promulgate regulations "to assure . . . reasonable progress toward meeting" the national visibility goal, § 7491(b)(2), and mandated that EPA's regulations contain "such emission limits, schedules of compliance and other measures as may be necessary" to assure such progress towards meeting that goal, "*including*" a requirement that states make BART determinations. *Id.* (emphasis added). As EPA has stated, "BART is one component of long term strategies to make reasonable progress." Regional Haze Regulations and Guidelines, 70 FR at 39137.

Indeed, precisely because BART's purpose is to make reasonable progress, EPA adopted regulations exempting states from making BART determinations *at all* if they can show that other measures for large stationary sources, such as a cap- and-trade program, will achieve greater reasonable progress. 40 C.F.R. § 51.308(e)(2) (2012). EPA defended

those regulations in court by arguing that BART is one of a number of “emission limits, schedules of compliance and other measures” that “must” be included in a SIP “as may be necessary to make reasonable progress toward national visibility goals.” Ctr. for Energy and Econ. Dev. v. EPA, 398 F.3d 653, 659-60 (D.C. Cir. 2005) (confirming BART is but one measure for achieving “reasonable progress”); Cent. Arizona Water Conservation Dist. v. EPA, 990 F.2d 1531, 1534 (9th Cir. 1993) (same). According to EPA, if other measures better achieved those goals, then BART would not be “necessary to make reasonable progress.” Id. The court agreed with EPA’s analysis, although it overturned EPA on other grounds. Id. As the court said, “the focus of the Clean Air Act was to achieve ‘actual progress and improvement in visibility,’ 42 U.S.C. § 7492(b), not to anoint BART the mandatory vehicle of choice.” Id. at 660.

Thus, EPA cannot validly judge a state’s BART determination outside of its reasonable-progress context. Owasso Indep. Sch. Dist. No. I-011 v. Falvo, 534 U.S. 426, 434 (2002) (“the words of a statute must be read in their context and with a view to their place in the overall statutory scheme.”). As EPA recognizes, in some circumstances, no BART controls may be necessary to make reasonable progress. It follows that in other circumstances, depending on a state’s reasonable-progress goals and expected non-BART emission reductions, BART controls of varying stringency may be necessary.

Here, EPA already has approved Utah’s “reasonable progress” determination for its RH SIP in its entirety. See “Approval, Disapproval and Promulgation of State Implementation Plans; State of Utah; Regional Haze Rule Requirements for Mandatory Class I Areas Under 40 CFR 51.309,” published at 77 FR 74355, 74367-68 (Dec. 14, 2012). EPA found that “the State met all reasonable progress requirements for the Class I areas,” including by implication any required NOx BART limits. Id. In fact, EPA stated that Utah’s 2008 RH SIP, including BART controls identified in that 2008 RH SIP, would result in “a significant decrease in stationary source NOx and SO2 emissions.” Id. EPA further found that the NOx BART controls adopted by Utah for the Hunter and Huntington EGUs at issue would decrease NOx emissions by “6,200 tons [annually] between 2002 and 2018.” Id. Therefore, EPA acknowledged that Utah’s NOx BART limits and controls are all that are required to achieve “reasonable progress,” and no further NOx BART requirements should be imposed by EPA through its FIP Proposal.

VI. Conclusion

For all of the reasons stated above, EPA should approve the Utah SIP as stated in the SIP Proposal, and should reject the FIP Proposal. What EPA cannot do, and indeed is not empowered under the CAA to require, is compliance with both the SIP Proposal and the FIP Proposal.

ATTACHMENT 5



**REVIEW OF ANDOVER'S COST ANALYSIS FOR SCR RETROFITS FOR
HUNTER AND HUNTINGTON STATIONS**

MARCH 14, 2016

FINAL

PROJECT NUMBER 11792-027

PREPARED BY



55 East Monroe Street
Chicago, IL 60603-5780 USA

Introduction

Andover Technology Partners (Andover) prepared a report entitled, "Cost of NO_x BART Controls on Utah EGUs," (*Andover Report*) in which Andover claims some of the costs included in PacifiCorp's August 2014 "BART Analysis Update for Hunter Units 1 and 2 and Huntington Units 1 and 2" (*2014 BART Report*) are not consistent with estimating techniques allowed by EPA's *Air Pollution Control Cost Manual* (*Control Cost Manual*).¹ The NO_x technology costs included in the *2014 BART Report* were estimated by Sargent & Lundy, L.L.C (S&L). In particular, Andover claims that the costs included in the *2014 BART Report* to retrofit SCR technology at the Hunter and Huntington stations includes items which were double-counted as well as costs that are not allowed by the *Control Cost Manual*.² The *Andover Report* identifies 10 categories for which they recommend adjusting the cost estimates to retrofit SCR technology on each of these units. On behalf of PacifiCorp, S&L has reviewed the Andover report and prepared responses to each of these areas of concern.

S&L's experience in the electric power industry, as well as our experience working with PacifiCorp makes us uniquely qualified to perform this review. S&L has considerable experience with the federal and state environmental regulations affecting power plant operations, as well as the specification, evaluation, selection, and implementation of emission control technologies for both gas- and coal-fueled utility power facilities, including extensive experience with the NO_x control technologies evaluated. For example, since 2000, S&L has provided, or is currently providing, engineering services for the implementation of SCR systems on 68 units, totaling more than 36,000 MW of operating capacity. Our first-hand experience with NO_x control technologies, especially SCR systems, provides us with a thorough understanding of both the capital and operating and maintenance (O&M) costs associated with these technologies. In addition, S&L has completed multiple projects for PacifiCorp at both the Hunter and Huntington stations and we are familiar with the site constraints and the potential challenges to construct SCR systems at each station.

The SCR section of the Andover Report begins by summarizing SCR system costs, in \$/kW, reported by a limited number of references.³ These \$/kW costs can be very misleading, especially for plants like

¹ See, Andover Technology Partners, "Cost of NO_x BART Controls on Utah EGUs," (*Andover Report*) October 22, 2015, at pg 9.

² *Id.*

³ *Id.*

Hunter and Huntington, which are located at high elevations of 5,680 feet and 5,790 feet, respectively. At higher elevations the resulting flue gas volumes are higher than a similar sized plant at lower elevations. At the elevation of each of these plants, the flue gas volume would equate to approximately 23 to 24 percent more gas volume than an equivalent MW boiler at sea level. Table 1 compares the capital costs for the SCR systems reported in the 2014 BART Report to the Andover Report and shows the \$/kW, corrected for elevation.

Table 1: SCR Total Capital Investment (TCI) of 2014 BART Report and Andover Report

	Hunter 1	Hunter 2	Huntington 1	Huntington 2
Nominal MW (gross)	450	450	450	450
Nominal MW (gross) from Andover Report	446	430	461	450
Equivalent MW (gross)⁴	554	554	558	558
2014 BART Report LNB/OFA + SCR TCI	\$180,791,743	\$177,482,372	\$176,287,506	\$176,517,450
2014 BART Report LNB/OFA TCI	\$11,586,773	\$8,872,212	\$8,325,049	\$8,562,067
2014 BART Report SCR Only TCI⁵	\$169,204,970	\$168,611,160	\$167,962,457	\$167,955,383
2014 BART Report \$/kW (SCR Only)⁶	<u>\$305</u>	<u>\$304</u>	<u>\$301</u>	<u>\$287</u>
Andover Report LNB/OFA + SCR TCI⁷	\$110,338,801	\$108,111,901	\$107,805,353	\$109,428,725
Andover Report SCR Only TCI⁵	\$98,752,028	\$99,495,445	\$99,720,288	\$100,040,436
Andover Report \$/kW (SCR Only)⁶	<u>\$178</u>	<u>\$180</u>	<u>\$179</u>	<u>\$179</u>

Andover claims that, "historical industry cost data were considered to determine if the costs were reasonable in the context of what has been reported at other facilities;"⁸ however, the data they analyzed are primarily from the early 2000s, with the most recent data being from a single project in

⁴ Increases MW by 23 and 24% to consider elevations of Hunter (5,680 feet) and Huntington (5,790 feet)

⁵ See, Andover_NOx_control_costs_October_22_2015.xlsx worksheet "NOx - SCR_\$ton," at row 56."

⁶ Calculated by dividing the "SCR Only TCI" by the Equivalent MW

⁷ Calculated by adding Andover costs. See, Andover_NOx_control_costs_October_22_2015.xlsx worksheet "NOx - LNB," at row 32 and "NOx - SCR_\$ton," at row 56.

⁸ See, Andover Report, at pg. 7.

2007 and a single project in 2013.⁹ Andover then incorrectly used the Chemical Engineering Process Cost Indexes (CEPCI) to escalate all of the project costs from the year reported to 2014.¹⁰

The CEPCI composite index is updated monthly in Chemical Engineering Magazine. The composite index is built from four sub-indexes (Equipment, Construction Labor, Buildings, and Engineering & Supervision), and seven equipment component sub-indexes (e.g., process machinery, pipe, valves & fittings, electrical equipment, etc.). Although the CEPCI indexes are commonly used in industry to escalate project costs on a year-to-year basis, there are limitations to its use. One of the most important limitations is the general industry standard that the composite CEPCI index should not be used to escalate costs beyond 5-years.¹¹ Beyond the 5-year window, cost indexes may not accurately reflect changes in relative weighing-factor of the underlying costs, such as fabricated equipment prices, labor costs and productivity, and commodity pricing. Studies have found that beyond a period of 5-years, the differences between actual prices of equipment and labor and those predicted by a cost index become too great to provide meaningful budgetary cost estimates.¹² Therefore, only the 2013 data utilized by Andover can be escalated and used for a meaningful comparison. The 2013 data point was reported by Andover to be \$420/kW, which is well above the costs estimated by both Andover and S&L for the PacifiCorp Utah units.

The UARG document, referred to in the Andover Report, includes a much more comprehensive and recent sample of SCR retrofit costs in the United States. Figure 1 reproduces the SCR costs reported in the UARG document, but the graph has been annotated to compare the "SCR only" cost range for PacifiCorp's Utah units, provided by S&L in the *2014 BART Report*, to that provided in the Andover Report, and as summarized in Table 1. The cost ranges identified on Figure 1 for the S&L and Andover costs are based on the equivalent boiler size at sea level and not the actual boiler size (i.e. MW sizes have been increased by ~20% to reflect the higher gas volumes for these units based on their elevations), just as was done above in Table 1. S&L's cost estimates were performed in 2011 and are based on costs from 2011. Andover's costs were developed by adjusting S&L's cost estimates, and are therefore also based on a 2011 dollar basis. When analyzing the most recent UARG reported SCR costs installed between 2008 and 2010, it can be seen that only a single data point from this period is below

⁹ See, Andover_NOx_control_costs, October 22, 2015.xlsx worksheet "TVA_SCR Cost," at column D.

¹⁰ *Id.*, at Column G

¹¹ See, Vatavuk, W., "Updating the CE Plant Cost Index," Chemical Engineering, January 2002, pg. 62, at pg. 66.

¹² *Id.*, at pg. 66.

the Andover costs, while the S&L costs are well within the overall range of this data. In addition, the costs presented in Figure 1 are on a 2008 dollar basis and have not been adjusted to consider escalation of capital costs from 2008 to 2011 which would further increase the discrepancy between the Andover costs to the recent SCR project costs reported by UARG.

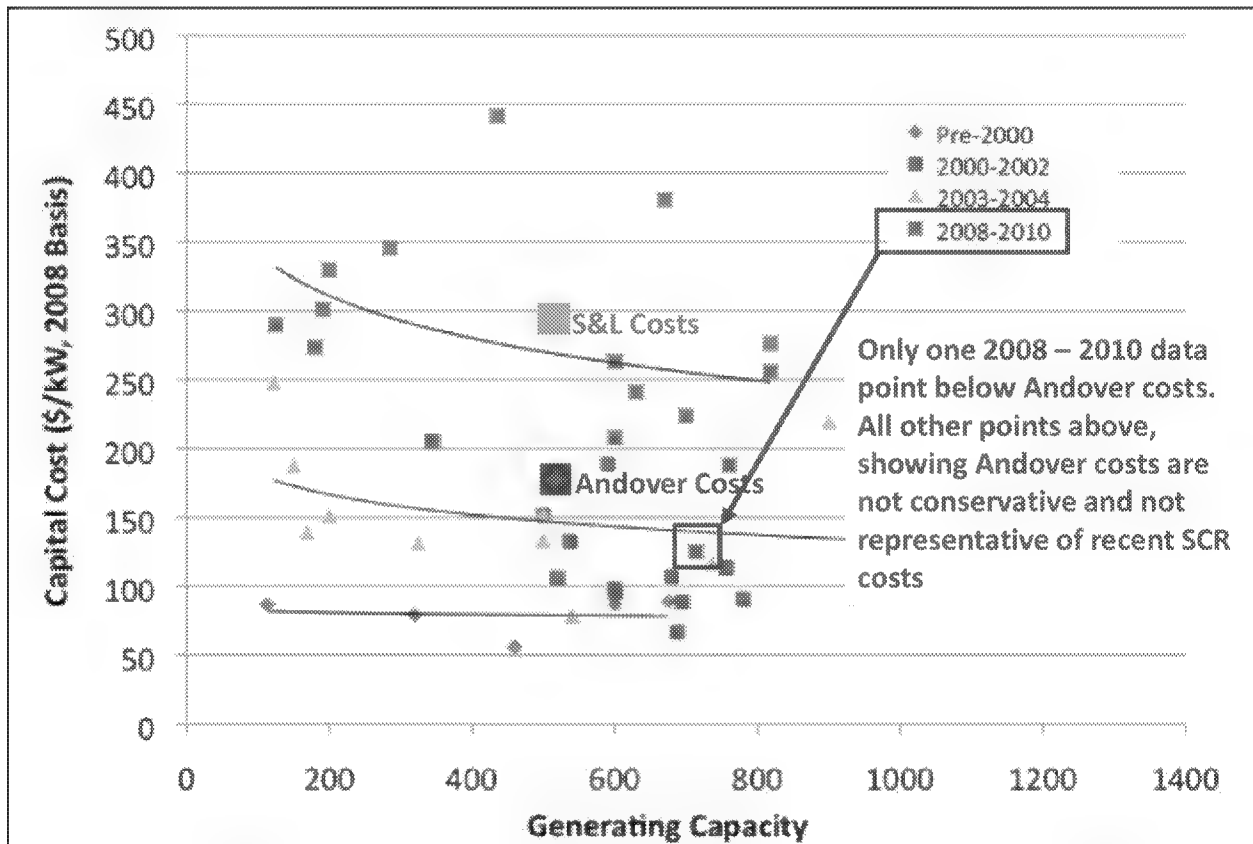


Figure 1: UARG SCR Costs Annotated with S&L and Andover Costs for Hunter / Huntington ¹³

Andover claims repeatedly in their report that they made conservative assumptions and that their costs are more reflective of costs to retrofit SCR systems at Hunter and Huntington stations than S&L's estimates.¹⁴ However, Figure 1 clearly shows that Andover's costs are neither conservative nor do they compare well to industry data for recent SCR projects.

¹³ See, Cichanowicz, J. E., "Current Capital Cost And Cost-Effectiveness Of Power Plant Emissions Control Technologies", Prepared for Utility Air Regulatory Group, January 2013, Figure 6-1, at pg. 6-2.

¹⁴ See, *Andover Report*, at pgs. 14, 16, 17, 18, and 19.

Responses to Andover's Report

The following sections respond in detail to the mistaken and, in some cases, arbitrary assumptions made by Andover in their cost adjustments. Our responses illustrate why the S&L cost estimates included in the 2014 BART Report are consistent with the study level estimating procedures identified in the *Control Cost Manual*, and shows that majority of the adjustments made by Andover to our estimates are completely inappropriate.

1. Process Contingency

Andover Report: For SCR applications on utility boilers burning US western bituminous coals there should not be a need for process contingency.¹⁵

S&L Response:

Andover's claims that process contingency is not required are arbitrary and have no basis. We agree with Andover's clarification that commercially available technology process contingency could range from 0 – 10%.¹⁶ In this case, S&L followed the *Control Cost Manual's* specific SCR example of 5% process contingency¹⁷, which is an intermediate value from the possible range cited in Andover's reference. While Andover is correct that there is significantly more experience with SCR technology in the United States, PacifiCorp's Bridger Station Unit 3, which was commissioned in December of 2015 is, according to S&L's knowledge, the first SCR in the United States to be installed on a unit that fires these unique western bituminous coals. In addition, to date, S&L is not aware of any such SCR systems firing the Utah-specific coals fired at Hunter and Huntington. Later in its analysis, Andover correctly notes that the coal chemistry is different than eastern bituminous, Pennsylvania bituminous, and PRB fuels, which demonstrates the uniqueness of these Utah fuels.¹⁸ Andover also summarizes average deactivation rates provided by one catalyst supplier that do not include deactivation rates for Western Bituminous fuels, further illustrating that there is no current experience with these coals.¹⁹

¹⁵ See, *Andover Report*, at pg. 8.

¹⁶ *Id.*, at pg. 7.

¹⁷ See, *Control Cost Manual*, Section 4, Chapter 2, Table 2.5 at pg. 2-44.

¹⁸ See, *Andover Report*, at pg 12.

¹⁹ See, *Andover Report*, Table 3 at pg 15.

There have also been several industry publications citing the potential for vapor-phase phosphorous poisoning of catalyst for deeply staged burners, consistent with the types of Low NO_x burners and over-fired air systems that are in place at the Hunter and Huntington units.^{20, 21} Industry data regarding phosphorous poisoning has varied significantly and has been found to depend on the amount of phosphorous that is converted to vapor phase, which is very difficult to measure. Therefore, it was appropriate for S&L to include 5% process contingency, as allowed by the *Control Cost Manual*, to account for the uncertainty associated with the SCR design due to firing these unique western bituminous coals and the potential for vapor-phase poisoning, a recent phenomenon that is not yet fully understood.

2. Project Contingency

Andover Report: *Project Contingency of 15% is too high in light of the cost method used and very conservative underlying assumptions. No additional project contingency is allowed.*²²

S&L Response:

We agree with the Andover report that the cost estimating methodology described in the *Control Cost Manual* is designed to provide "study level" cost estimates, which the manual states are "nominally accurate to within $\pm 30\%$."²³ and are "acceptable for regulatory development."²⁴ In addition we agree that these were adapted from standards developed by the American Association of Cost Engineers (AACE). However, Andover incorrectly classifies S&L's cost estimates as either Class 1 or Class 2 because they have "hundreds of line items and input parameters." The AACE defines estimate classes based upon the level of project definition, which it states correlates to the percent of engineering and design that is completed.²⁵ AACE's Class 5 estimates are used for conceptual screenings, have the widest range in accuracy, and have as little as 0 to 2% engineering completed in support of their

²⁰ See, M Gadgil, "Deactivation of Selective Catalytic Reduction (SCR) Catalyst by Phosphorus: Proposed Mechanism and Solution," Presented at the International Pittsburgh Coal Conference, September 12 – 15, 2011.

²¹ See, M Gadgil et al, "Combustion Additives for Control of Phosphorus Effects and Achieving Mercury Reduction," Presented at Power-Gen Europe, June 3 – 5, 2014.

²² See, *Andover Report*, at pg. 8.

²³ See, *Control Cost Manual*, at pg. 2-3.

²⁴ *Id.*, at pg 2-4.

²⁵ AACE International Recommended Practice No. 18R-97, November 29, 2011, at pg. 5.

development.²⁶ AACE's Class 4 estimates are used for studies and feasibility analyses have between 1 and 15% engineering completed in support of their development.²⁷ In contrast, Class 2 estimates correspond to between 30 and 75% engineering having been completed while Class 1 estimates correspond to between 60 and 100% of the engineering having been completed to support the development of those estimates.

For Class 2 estimates, even the minimum range of engineering at 30% would require major equipment, including the SCR system, to be awarded to a contractor so that they would have the ability to start the detail design for foundations, structural steel, and ductwork. Further, 60 to 75% engineering would be consistent with the beginning of construction phase, as the contractor prepares the site and installs the foundations. Finally, 100% completion of the engineering on a project is consistent with being well into the construction phase, with most mechanical and structural items being procured, manufactured and delivered to site. None of the above items were conducted to support the estimates generated in the *2014 BART Report*.

The cost estimating procedure described in the *Control Cost Manual* to obtain study level estimates consists of five steps: (1) obtaining the facility parameters and regulatory options for a given facility; (2) roughing out the control system design; (3) sizing the control system components; (4) estimating the cost of these individual components; and (5) estimating the costs (capital and annual) of the entire system.²⁸ Completing these steps does not require a level of engineering even approaching 30%. In reality, S&L completed well below 5% of the overall engineering to support the development of the Hunter and Huntington cost estimates. The hundreds of line items in our cost estimate reflect our experience with these types of retrofit projects, but do not reflect detailed engineering being conducted. S&L's estimates are consistent with Class 4 estimates which, as stated by Andover, are consistent with the study level estimates that provide the basis of the *Control Cost Manual*.

We could find no reference in the *Control Cost Manual* or AACE that defined the accuracy level or appropriate contingency based upon the number of line items included in a cost estimate. Therefore, Andover's assertion that contingency is not appropriate for a cost estimate that

²⁶ *Id.*

²⁷ AACE International Recommended Practice No. 18R-97, November 29, 2011, at pg. 2.

²⁸ *Control Cost Manual*, page 2-23.

includes “many cost line items” is completely arbitrary.²⁹ In addition, Andover claims the contingency is not warranted because it says the S&L estimate “already has substantial contingency built into it through conservative assumptions,” yet they fail to indicate which of our assumptions are conservative and why they necessitate the removal of project contingency.³⁰ Andover continues to describe the “importance of double-counting contingency in multiple places such as retrofit factor and contingency,” but no retrofit factor is included in S&L’s estimates.³¹ Finally Andover states that the *Control Cost Manual* “explicitly anticipates that some analysts may, incorrectly, apply multiple contingencies,” and that, “the CCM is clear that such double-counting should be avoided.”³² It appears to us that Andover has merely repeated requirements from the *Control Cost Manual* regarding double-counting to support its claim that S&L’s has double-counted costs in its estimates. While we agree that double-counting is not allowed, Andover fails to identify any specific line items in S&L’s cost estimate that duplicate project contingency.

In conclusion, S&L’s estimates are consistent with Class 4 estimates and do not include items in the estimate that overlap with project contingency. We agree with Andover that 15% contingency is appropriate for Class 4 estimates, which is what was included in our cost estimates.

3. General Facilities

Andover Report: *The cost estimate for PacifiCorp on all four units included a number of items that would fall into the category of General Facilities, and in order to avoid double-counting, an additional line item for General Facilities will not be included.*³³

²⁹ See, *Andover Report*, at pg. 8 and pg.9.

³⁰ *Id.*, at pg 9.

³¹ *Id.*

³² *Id.*

³³ *Id.*

S&L Response:

The following is an excerpt from the *Control Cost Manual* that refers to General Facilities:

"Indirect installation costs are those associated with installing and erecting the control system equipment but do not contribute directly to the physical capital of the installation. This generally includes general facilities and engineering costs such as construction and contractor fees, preproduction costs such as startup and testing, inventory capital and any process and project contingency costs."³⁴

Process and project contingency are dealt with separately in this response, and none of the remaining items listed above correspond to items from S&L's cost estimate that Andover highlights in this section of its report. Much of the equipment listed in S&L's estimate to which Andover objects is safety related and included to protect the operating personnel. This equipment is required by the process and contributes directly to the physical capital costs. Andover's objection to S&L's cost estimates related to General Facilities is not clear as S&L correctly followed the example illustrated in Chapter 2 of the *Control Cost Manual* with respect to General Facilities.

4. Allowance for Funds Used Under Construction (AFUDC)

Andover Report: *AFUDC is not included in the overnight cost methodology of the CCM and therefore was not allowed. PacifiCorp correctly excluded this from their estimate.*³⁵

S&L Response:

S&L disagrees that the *Control Cost Manual* describes an overnight approach to calculating capital costs. The *Control Cost Manual* does not once define or even mention the overnight methodology as being the basis for estimating costs. Rather, the *Control Cost Manual* describes a constant dollar approach that annualizes all capital costs and O&M costs (on a constant-dollar basis) over the useful life of the project.

³⁴ *Control Cost Manual*, Section 4, Chapter 2, page 2-43.

³⁵ See, *Andover Report*, at pg. 10.

The term "total capital investment" is defined in the *Control Cost Manual* to include all costs required to purchase the equipment needed for the control system (purchased equipment costs), the costs of labor and materials for installing that equipment (direct installation costs), costs for site preparation and building, working capital, and off-site facilities, as well as indirect installation costs "such as engineering costs; construction and field expenses (i.e., costs for construction supervisory personnel, office personnel, rental of temporary offices, etc.); contractor fees (for construction and engineering firms involved in the project); start-up and performance test costs (to get the control system running and to verify that it meets performance guarantees); and contingencies."³⁶ AFUDC is an indirect capital cost that should be included in a capital cost estimates prepared and is in accordance with the methodology described in the *Control Cost Manual*.

AFUDC accounts for the time value of money associated with the distribution of construction cash flows over the construction period.³⁷ AFUDC can represent a significant cost on large construction projects with long project durations and can be calculated based on a typical construction project cash flow and real rate of interest. EPA's CUECost model includes AFUDC in its calculation of air pollution control technology capital costs using an AFUDC factor and the total plant cost.³⁸ For SCR projects, the project could be spread over a construction period of 18 months or more.

Although specifically referenced in the *Control Cost Manual*, and more reflective of real-world project costs, the 2014 BART Report excluded AFUDC in recognition of EPA's opinion that such costs should not be factored into five-factor Regional Haze BART analyses.

5. Sales Tax

S&L has no comment to this section.

6. Property Tax

S&L has no comment to this section.

³⁶ *Control Cost Manual*, Section 1, Chapter 2, page 2-5.

³⁷ *Id.*, at pg. 33.

³⁸ *Id.*, at pg. 17.

7. Indirect Installation Costs

Andover Report: *As a result, several costs cited in PacifiCorp's cost estimate, such as Contractor Construction Management / Field Engineering and Contractor Training Classes, are not allowed because these are included in the 10% Engineering and Home office fees that are already included in the cost.*³⁹

S&L Response:

We refer Andover to the *2014 BART Report*, which identifies what indirect costs are included in the cost-effectiveness calculations.⁴⁰ This information shows that several indirect costs from S&L's estimates were specifically excluded by S&L from the cost-effectiveness calculations, which was done to avoid double counting. Instead of including the costs from S&L's estimates, we followed the example calculations from Chapter 2 in the *Control Cost Manual* to estimate indirect costs due to engineering and home office fees. As indicated in *2014 BART Report*, we did include several items that are not specifically listed in the *Control Cost Manual's* description of indirect costs due to engineering and home office. Those costs include: 1) Construction Management 2) Spare Parts Required for Startup and 3) Training supplied by the contractor. To clarify these terms, Construction Management is generally provided by a third-party, other than the EPC contractor, to ensure that the construction activities are proceeding according to the contract requirements and that the work is coordinated with other plant activities. Spare parts required for startup are only the spare parts required by the EPC contractor during the commissioning and startup phases, not the spare parts that are included in O&M costs as required for annual maintenance. Training, which is generally conducted by various equipment providers, is conducted to familiarize operators with the new equipment and teaches them how to operate and maintain the equipment. The *Control Cost Manual* does not list these items as included in its description of "indirect costs due to engineering and home office fees," therefore we included them in our total direct costs so that these real costs would not be excluded from the cost-effectiveness calculation.

³⁹ See, *Andover Report*, at pg. 11.

⁴⁰ *2014 BART Report*, Appendix B, pg. 1.

In contrast, there were several indirect cost line items in S&L's cost estimates that were specifically excluded from the cost-effectiveness calculations to avoid double counting, including 1) Engineering services, 2) Startup and Commissioning, 3) Initial Fills and 4) EPC Fee. Although all of these costs are real costs for these types of projects, we excluded them from the cost effectiveness calculations because the description of engineering indirect costs described in the *Control Cost Manual* specifically lists these items, except for initial fills, which we conservatively omitted because we believed these could be interpreted as costs already included in startup and commissioning costs.

Using the Hunter 1 S&L detailed cost estimate and 50% of the S&L detailed common estimate (to illustrate the total Hunter 1 costs), the following table shows the indirect costs due to engineering and home office fees that S&L excluded from the cost-effectiveness calculations to avoid double counting, compared to those that result from using EPA's formula of $0.1 * TDC$ provided in the *Control Cost Manual (CCM)*.

Item	Indirect Costs Due to Engineering and Home Office Fees	Hunter 1 S&L Estimate	50% of Common Hunter S&L Estimate
1	Engineering Services	\$8,170,900	\$511,700
2	Startup and Commissioning	\$1,021,400	\$63,950
3	Initial Fills	\$35,000	---
4	EPC Fee	<u>\$11,309,900</u>	<u>\$718,950</u>
5	Total excluded from <i>each</i> S&L estimate ⁴¹	\$20,537,200	\$1,294,600
6	Total excluded from <i>both</i> S&L Estimates ⁴²	\$21,831,800	
7	Costs Using $0.1 * TDC$ (Included in Cost-Effectiveness)	\$12,487,594	
8	Difference Between Excluded and Included Costs ⁴³	\$9,344,206	

From this table, it can be seen that S&L estimated indirect costs due to engineering and home office fees of over \$21 million, but to avoid double counting indirect costs identified in the

⁴¹ This is the sum of items 1 through 4 in each column.

⁴² This is the sum of the total excluded from the Hunter 1 Estimate and 50% of the Common Hunter Estimate

⁴³ This is the difference between Items 6 and 9, showing how using the CCM methodology for these indirect costs actually leaves over \$9 million of estimated costs out of the cost-effectiveness calculations.

Control Cost Manual, those costs were excluded from the cost-effectiveness calculations.

Instead, we followed EPA's formula in Chapter 2 which estimates indirect costs due to engineering and home office fees to be $0.1 * \text{TDC}$, which for Hunter 1 was approximately \$12.5 million. Therefore, the 2014 BART Report cost-effectiveness calculations are conservative with respect to indirect costs due to engineering and home office fees because, by following EPA's example, the cost-effectiveness calculations for Hunter 1 do not include over \$9 million in real costs that would actually be incurred. When considering all four units at Hunter and Huntington, approximately \$ 38.8 million in indirect costs due to engineering and home office fees were conservatively not included in the cost-effectiveness analysis.

8. Catalyst and Catalyst Reactor

Andover's lengthy analysis in this section of the report can be sub-categorized into four main areas: a) Catalyst Costs, b) Catalyst Volume, c) SCR Reactor Design and d) Regenerated Catalyst, each of which is discussed in the following sections.

a. Catalyst Costs

Andover Report: *Sargent & Lundy arrives at a catalyst cost by escalating a 1998 cost of catalyst using CEPCI, which does not consider what catalyst actually costs today. These costs are at the upper level to well above what catalyst actually costs.*⁴⁴

S&L Response:

Andover misunderstands the source of \$240/ft³ (\$8,470/m³) and the \$290/ft³ (\$10,200/m³) by assuming S&L escalated 1998 costs based on CEPCI indices. These two numbers come directly from the *Control Cost Manual* example calculations.⁴⁵ The cost-effectiveness comparison worksheets included in Appendix A of the 2014 BART Report are merely repeating EPA's methodology illustrated in the *Control Cost Manual*. In addition, the right-most column of S&L's cost-effectiveness worksheets include a comment that states the CEPCI indices were not used to escalate catalyst costs included in the capital cost estimates because 2011 cost values were

⁴⁴ See, *Andover Report*, at pg. 11.

⁴⁵ *Control Cost Manual*, Section 4, Chapter 2, page 2-50.

utilized. Andover subsequently points out that the capital cost included in S&L's detailed cost estimates contained \$6,750,000 for 1040 m³ of catalyst, with additional labor costs, which increase the total catalyst cost to \$8,096,100.⁴⁶ The labor costs included are required for the installation of the catalyst modules in the reactor. Dividing the total cost by the volume from the capital cost estimate (\$8,096,100/1040 m³) results in a volumetric price of \$7,785/m³.

Andover arbitrarily selected \$5,500/m³ as a reasonable basis for future catalyst based on a reference plot that does not appear to include freight costs to deliver the modules to site or labor costs to load the catalyst in the reactor.⁴⁷ The SCR catalyst capital costs are consistent with S&L's experience with recent pricing received from vendors for actual SCR retrofit projects on coal-fired boilers, including freight costs for delivery as well as installation costs. We note S&L's cost is well below both the 1998 and 2011 costs utilized by EPA in the SCR example calculation in the *Control Cost Manual*. Furthermore, S&L's catalyst cost is well below that reported in EPA's fact sheet, also referenced in Andover's report, which states that the approximate SCR catalyst cost is \$10,000/m³.⁴⁸ Therefore, S&L's catalyst capital costs are not excessive, reflect current catalyst pricing, and are well within the costs included in the *Control Cost Manual* as well as information available on EPA's website.

With respect to the replacement catalyst costs used in the 2014 BART Report, S&L expects actual replacement costs to be closer to \$10,000/m³ similar to what EPA uses in the *Control Cost Manual* because these replacement costs include the cost of the catalyst itself, the freight cost to deliver the catalyst to site, the labor cost to remove the spent catalyst, the cost to dispose of the spent catalyst modules, and the labor cost to install the new catalyst. However, to be conservative, S&L used only the \$240/ft³ (\$8,470/m³) from the *Control Cost Manual* as the replacement value of the catalyst.⁴⁹ Therefore, the replacement catalyst cost used in the cost-effectiveness worksheets is not excessive, reflects current catalyst pricing, and is well within the costs included in the *Control Cost Manual*.

⁴⁶ Andover Report, pg. 11.

⁴⁷ *Id.*

⁴⁸ US EPA, *Air Pollution Control Technology Fact Sheet* (EPA-452/F-03-032), July 15, 2003, at pg. 1.

⁴⁹ 2014 BART Report, Appendix B, Located in Table labeled, "EPA Cost Manual Inputs / Constants," within the row identified in this table as "Replacement Catalyst Cost."

b. Catalyst Volume

Andover Report: *The estimate by Sargent & Lundy of catalyst volume appears to be too great.*⁵⁰

S&L Response:

The amount of SCR catalyst volume required depends on the following design parameters: 1) gas volume, 2) gas temperature, 3) Amount of NO_x removed, 4) catalyst life, 5) fuel properties (which dictate the deactivation rate), and 6) SO₂ to SO₃ oxidation rate. The data included in Andover's report that they use to conclude S&L's catalyst volume is over-estimated contain only one of these variables (catalyst life). Notably, none of the catalyst life data presented includes units designed with 32,000 hours of life, which is the design life required for Hunter and Huntington to accommodate their current outage schedules. The data reported by Andover incorrectly includes gross output (MW), which is not directly proportional to gas volume in the case of the Hunter and Huntington units, each of which are over 5,600 feet in elevation, and as previously discussed, have significantly higher gas volumes for equivalently rated units located at sea level. For this reason, gross output (MW) cannot be used to compare catalyst volumes for plants that vary in elevation. In addition, the table lists % NO_x reduction, but catalyst volume depends on the amount of NO_x removed, not the % reduction. For example, consider two SCR systems that are equivalent with respect to all variables with the exception that one SCR system is designed for 90% reduction with an inlet NO_x of 0.4 lb/MMBtu (i.e an outlet NO_x of 0.04 lb/MMBtu) and the other is designed for 90% reduction with an inlet NO_x of 0.5 lb/MMBtu (i.e an outlet NO_x of 0.05 lb/MMBtu). The second plant will require substantially more catalyst because it is removing 0.45 lb/MMBtu of NO_x (0.5 minus 0.05) while the first is removing only 0.36 lb/MMBtu (0.4 – 0.04). Therefore, the data presented by Andover cannot be utilized to conclude anything with respect to how catalyst volumes compare at different locations and has resulted in an incorrect conclusion by Andover that the SCR volume at Hunter and Huntington is excessive.

As noted in the 2014 BART Report cost-effectiveness worksheets, EPA's empirical formulas from the *Control Cost Manual* are insufficient to predict catalyst volume because they do not include

⁵⁰ Andover Report, pg. 12.

many of the necessary parameters described above, and most notably do not account for catalyst life. Therefore, we disagree with Andover's methodology to utilize those equations to estimate catalyst volume. Andover calculated catalyst volume by using a second methodology, but this methodology is based on a proposal by EPA in 2015 to revise its *Control Cost Manual*. EPA has not yet responded to comments on this methodology, and S&L has not evaluated its technical validity. We note that while the formulas do include catalyst life, Andover calculated the catalyst volume based on 16,000 hours of catalyst life, instead of 32,000 hours, which is what will be utilized for Hunter and Huntington. Furthermore, Andover arbitrarily selected deactivation rates consistent with Eastern Bituminous even though the Hunter and Huntington fuels are Western Bituminous, which as discussed earlier, have not been utilized before in an SCR system. If Andover's worksheet using this methodology is changed to account for 32,000 hours of life and assuming a more conservative deactivation rate such as 0.65 to coincide with PRB, then the catalyst volume is predicted to be 949 m³, very close to S&L's estimated 1040 m³. To be clear, we are not stating that EPA's proposed methodology is valid merely because changing some input parameters resulted in an estimate close to ours; instead, we are saying that flawed assumptions were used by Andover to under-estimate catalyst volumes using a method that has not yet been approved for use in the *Control Cost Manual*.

S&L estimated the catalyst volume at Hunter and Huntington based on contract values for the Naughton 3 SCR project. Andover incorrectly assumes that there was no SCR project at Naughton 3. In fact, S&L supported PacifiCorp during conceptual design and specification development to retrofit a SCR system, and other air pollution control equipment, at Naughton 3. PacifiCorp awarded a final EPC contract for the project, and the Contractor began its engineering effort. Shortly after the SCR contract was awarded, however, the project was canceled due to a later decision to convert the unit from burning coal to burning natural gas. During the conceptual design, S&L used its proprietary methodology (that depend on the 6 parameter listed above) to estimate catalyst volume for Naughton 3 to be 623 m³, based on 16,000 hours of catalyst life. The final SCR contract was designed to include 810 m³ of catalyst, based on 32,000 hours. We therefore, concluded that for longer catalyst life while burning Western Bituminous fuels, S&L's method under estimated catalyst volume by approximately 30%. As such, when we applied our proprietary formulas to the Hunter and Huntington design basis, we

predicted 800 m³, but increased that by 30% to estimate 1040 m³, to account for the discrepancy we noted on the Naughton 3 SCR project. To be clear, S&L is not saying that in all cases the difference in catalyst volume between 16,000 and 32,000 hours of life is 30%, but we found that our estimating technique was off by this amount for the Naughton example, and we believe that because the Hunter and Huntington fuels have similar characteristics, it was reasonable to adjust the catalyst volume by the same amount for this project.

Andover comments that the 32,000 hours of catalyst life is unusual, and S&L agrees that this catalyst life is not typical in the industry. However, PacifiCorp has committed itself to reducing maintenance outage frequency to every four years; therefore, they intend to replace catalyst outage with that frequency. The UARG reference cited in Andover's report correctly points out that "to confine catalyst replacement to major outages," is one strategy to minimize catalyst replacement costs.⁵¹ If PacifiCorp was required to take an extra week long outage every two years in accordance with Andover's presumed 16,000 hours of catalyst life, then the cost-effectiveness calculations would need to include the cost of replacement power for that extra outage, which are currently not included.

In summary, the catalyst volumes estimated by S&L are consistent with an actual SCR project designed to burn Western Bituminous fuels similar to those that would be burned at Hunter and Huntington, and they account for the 4-year maintenance cycle on which these plants operate. In contrast Andover's catalyst volumes are under-estimated because they utilize flawed methodologies developed by EPA that do not account for important design parameters such as catalyst life.

c. SCR Reactor Design

*Andover Report: Only one reactor is necessary as opposed to two. This is because only about half as much catalyst is actually necessary.*⁵²

⁵¹ See, Cichanowicz, J. E., "Current Capital Cost And Cost-Effectiveness Of Power Plant Emissions Control Technologies", Prepared for Utility Air Regulatory Group, January 2013, at pg. 6-6.

⁵² *Andover Report*, pg. 16.

S&L Response:

Although we previously illustrated that Andover underestimated the catalyst volume requirements to retrofit SCR systems at Hunter and Huntington, the number of reactors is not at all dependent on the volume of catalyst. Andover states, "the cross sectional area of the catalyst reactors will be reduced roughly in proportion to the catalyst volume," and concludes that "only one reactor of roughly the same size as one of the two reactors assumed by Sargent & Lundy is necessary." The reactor design is primarily set by gas flow and velocity, not catalyst volume. High velocities, in excess of 20 feet per second, lead to catalyst erosion. The two reactor conceptual design developed by S&L was based on an average velocity at the catalyst face of approximately 16 feet per second (fps), matching other project designs including that of Naughton 3. By changing the design to a single reactor with 50% of the cross-sectional area, twice as much flue gas would need to flow through this reactor, leading to the average velocity at the face of the catalyst doubling to 32 fps. Velocities in this range are technically infeasible for a variety of reasons. For one, the residence time of the flue gas in the reactor would be insufficient to achieve the NO_x reduction required. More importantly, this velocity would erode the catalyst in an extremely short period of time, rendering the SCR system useless.

In conclusion, even if a lower volume of catalyst were acceptable, which it is not, the number of reactors required at both Hunter and Huntington would remain two. Andover's conclusion that only a single reactor with 50% of the original cross-sectional area is acceptable for these units illustrates their lack of experience with SCR retrofit projects. All adjustment made to the estimate to adjust for a single-reactor design are completely inappropriate and technically infeasible.

d. Regenerated Catalyst

Andover Report: *Andover makes an unsupported assertion that "most replacement catalyst in the United States is regenerated catalyst."*

S&L Response:

The two references cited by Andover do not support this claim, and it is not consistent with S&L's experience in the industry. Neither the first reference, which describes various processes that were used to regenerate catalyst in 2001, nor the second reference, which describes catalyst regeneration experience in Germany (not the United States), present any data indicating that the majority of replacement catalyst in the U.S. is regenerated.

S&L has participated in several catalyst replacement projects in the last year and in each of these projects new catalyst was purchased for the spare or replacement layer. In addition, due to mechanical degradation of the modules, which cannot be recovered, the mechanical life of regenerated catalyst is much lower than new catalyst and has not been guaranteed to meet the duration which the catalyst is typically expected to remain within the reactor ($\geq 64,000$ operating hours).

9. Cost of Induced Draft (ID) Fan and Auxiliary Load

Andover Report: *Sargent & Lundy over-estimated the cost of the fans used in the PacifiCorp submittal.*⁵³

S&L Response:

Andover correctly points out that in some cases improvements to the existing ID fans can be sufficient to overcome the differential pressure required by SCR systems retrofitted to existing plants. For those rare cases, the original ID fans were typically designed to accommodate a future SCR system, so they generally already included significant operating margin. Based on the information available when we prepared the study level SCR cost estimates for Hunter and Huntington, new ID fans were determined to be required at all four units at both stations. Andover compared the size of the new motors (two 6000 HP motors for each unit) used to develop capital cost estimates to the additional auxiliary power consumption added by the SCR system (2100 to 2200 kW) used to estimate O&M costs, and mistakenly concluded that the fans included in S&L's estimates were oversized.

⁵³ Andover Report, pg. 18.

Because new ID fans were determined to be required, new ID fans must be designed to handle the entire flue gas flow and designed to overcome, not only the additional pressure drop from the SCR, but also to overcome the differential pressure for which it was originally designed (e.g. air preheaters, ESPs, etc.). For each unit, 2 x 50% ID fans were included in the capital cost estimate.

The lower auxiliary power numbers referenced above were utilized to prepare the O&M costs associated with the SCR systems so that the cost-effectiveness calculations only reflected the incremental increase in auxiliary power costs due to the SCR project. Andover's misunderstanding of the difference between the capital and O&M costs associated with the ID fans led them to make incorrect inferences regarding S&L's assumed fan and motor efficiencies, which further led them to incorrectly adjust the capital costs. Andover's capital cost adjustment is based on sizing the new ID fans for the incremental auxiliary power consumption due only to the SCR differential pressure, which is not technically feasible. Therefore, S&L's capital cost estimates regarding the ID fans are correct and the adjustments by Andover are not appropriate.

10. Operating Cost – Cost of Generating Steam for Hydrolyser

We agree that using fuel costs for steam costs is appropriate. Assuming the fuel costs indicated by Andover are correct, this impacts the cost-effectiveness calculation by less than 0.25%.

11. Additional Andover Adjustments

In addition to the ten main comments highlighted in the *Andover Report*, Andover made additional adjustments to the capital and O&M costs including: a) Revised reagent consumption per 2015 revision to *Control Cost Manual* and b) Removal of Owner's Costs.

a. Revised Reagent Consumption

Andover used equations from the EPA 2015 revision to its *Control Cost Manual* to calculate reagent consumption which impacts both the capital and O&M costs. At this time, EPA has not finalized this revision; even so this revision does not apply to this BART evaluation as it was completed in 2011, prior to the proposed changes. The proposed equations are incorrect and

underestimate the reagent consumption and result in lower O&M costs for the reagent, water, and steam as well as lower inventory capital costs.

b. Removal of Owner's Costs

Andover's report indicates that the "capital cost estimates do not include AFUDC or Owner's costs (beyond the 10% allowed for engineering and home office)." ⁵⁴ Engineering and home office fees are Contractor costs which cover the detailed engineering for the project as well as the Contractor's home office fees. Owner's costs are outside of the total Contractor cost and are real costs that the Owner will incur during the project such as services procured from third parties, and other project related costs.

⁵⁴ Andover Report, pg. 24.

Conclusions

For all of the reasons identified above, the capital and O&M costs reported in the *Andover Report* for SCR technology are underestimated. Table 2 summarizes the capital costs incorrectly excluded for each unit by Andover which should be included in the overall SCR control cost.

Table 2: Excluded Costs by Andover from SCR Total Capital Investment (TCI)

Ref	Item	Hunter 1	Hunter 2	Huntington 1	Huntington 2
1	Process Contingency	6,243,797	6,147,361	6,083,691	6,112,941
2	Project Contingency	22,477,668	22,130,498	21,901,287	22,006,586
3	General Facilities	6,243,797	6,147,361	6,083,691	6,112,941
4	AFUDC	0	0	0	0
5	Sales Taxes	0	0	0	0
6	Property Tax	2,764,009	2,773,612	1,864,732	1,863,726
7	Indirect Installation Costs	6,068,143	5,748,330	5,564,981	5,608,258
	Contractor Construction Management/Field Engineering	1,085,350	1,092,950	1,095,850	1,099,550
	Contractor Training Classes	135,000	135,000	135,000	135,000
	Engineering and Home Office Fees	3,371,711	3,112,193	2,965,375	2,995,130
	G. - Preproduction Costs	1,441,082	1,373,187	1,333,756	1,343,578
	I. - Initial Catalyst and Chemicals (Inventory Capital)	35,000	35,000	35,000	35,000
8	Catalyst and Catalyst Reactor	18,543,185	18,578,205	18,691,324	18,738,385
	IB. Total SCR Build	11,498,889	11,498,889	11,498,889	11,498,889
	IIB. Total - Other Direct Costs SCR Build	3,469,285	3,504,305	3,617,424	3,664,485
	a. Total - Other (Initial Load Catalyst)	3,575,011	3,575,011	3,575,011	3,575,011
9	Cost of ID Fan and Auxiliary Load	837,649	895,820	882,108	908,889
	ID Fan Cost (IB. Total SCR Build)	837,649	895,820	882,108	908,889
10	Operating Cost (Steam)	O&M Only	O&M Only	O&M Only	O&M Only
11	Additional Andover Adjustments	4,934,548	4,345,379	4,935,661	4,344,522
	H. - Inventory Capital - Urea Consumption	22,547	26,878	23,660	26,021
	a. Total - Other - Owner's Cost	4,912,001	4,318,501	4,912,001	4,318,501
TOTAL EXCLUDED CAPITAL COST (\$)		68,112,796	66,766,566	66,007,475	65,696,248
Total Delta Annualized Capital (\$/yr)		6,429,848	6,302,764	6,231,106	6,201,726

Ref	Item	Hunter 1	Hunter 2	Huntington 1	Huntington 2
	<i>Andover Report</i> SCR Only TCI ⁵⁵	\$98,752,028	\$99,495,445	\$99,720,288	\$100,040,436
	Adjusted <i>Andover Report</i> SCR Only TCI	\$166,864,824	\$166,262,011	\$165,727,763	\$165,736,684

Table 3 summarizes the O&M costs incorrectly excluded for each unit by Andover which should be included in the overall SCR control cost. By incorrectly removing the capital costs as defined in Table 2, Andover also reduced the fixed maintenance O&M costs by nearly \$2 million per unit. Andover arbitrarily adjusted the property taxes without proper justification, the adjustment included in Table 3 accounts for the differential between the value included in the *2014 BART Report* and that estimated by Andover. As discussed previously in the response to Andover's comment #8 the adjustments made to the catalyst volume are incorrect and have no basis, therefore the reduction in O&M costs is not justified; the cost in Table 3 represents the differential between the *2014 BART Report* and the *Andover Report*. Per Andover's comment #10, the reduction in steam unit price results in a small reduction in O&M costs and therefore no adjustment was made to the Andover costs. Finally, additional adjustments were incorrectly made by Andover as described in Item #11; these are also included in Table 3.

Table 3: Excluded Costs by Andover from SCR Total Annual O&M Costs

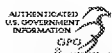
Ref.	Item	Hunter 1	Hunter 2	Huntington 1	Huntington 2
1-9	O&M Costs Affected by Capital Cost	1,985,063	1,971,993	1,961,003	1,959,105
	Maintenance Cost	2,044,314	2,031,690	2,020,835	2,019,129
	Administrative Charges	(59,251)	(59,697)	(59,832)	(60,024)
6	Property Taxes	1,110,892	1,100,579	1,092,769	1,090,814
8	Catalyst and Catalyst Reactor	169,530	169,530	169,530	169,530
11	Additional Andover Adjustments	807,719	854,190	814,287	887,169
	Reagent Cost	789,106	833,837	797,411	866,996
	Water Cost (For Reagent)	900	1,010	874	1,045
	Steam Cost (For Reagent)	17,713	19,343	16,001	19,128
TOTAL EXCLUDED O&M COST (\$/yr)		4,073,204	4,096,292	4,037,588	4,106,617
	<i>Andover Report</i> SCR Only Total Annual Operating Cost (Fixed and Variable) ⁵⁶	\$3,101,280	\$2,960,484	\$3,080,187	\$2,988,621
	Adjusted <i>Andover Report</i> SCR Only Total Annual Operating Cost	\$7,174,484	\$7,056,776	\$7,117,775	\$7,095,238

⁵⁵ See, *Andover_NOx_control_costs_October_22_2015.xlsx* worksheet "NOx - SCR_\$ton," at row 56.

⁵⁶ Calculated by adding Annual Operating and Fixed Operating Costs. See, *Andover_NOx_control_costs_October_22_2015.xlsx* worksheet "SC_PacifiCorp Annual_Adjusted," at row 108 and "NOx - SCR_\$ton," at row 92.

Exhibit B***PacifiCorp v. EPA*, Consolidated Case Nos. 16-9541, 16-9542, 16-9543, 16-9545**

Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze, 81 Fed. Reg. 43894 (July 5, 2016) (“Final Rule”)



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Part IV

Environmental Protection Agency

40 CFR Part 52

Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions To Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R08-OAR-2015-0463; FRL-9947-42-Region 8]

Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is partially approving and partially disapproving a State Implementation Plan (SIP) revision submitted by the State of Utah on June 4, 2015 to implement the regional haze program pursuant to section 169A of the Clean Air Act (CAA or Act). The State's SIP revisions would establish an alternative to best available retrofit technology (BART) controls that would otherwise be required to control nitrogen oxides (NO_x) at PacifiCorp's Hunter and Huntington power plants. The June 2015 SIP revision also includes BART determinations for particulate matter with an aerodynamic diameter of less than 10 micrometers (PM₁₀) at these power plants and provisions for making the NO_x and PM₁₀ BART emission limits federally enforceable. The CAA requires states to prevent any future and remedy any existing man-made impairment of visibility in national parks and wilderness areas designated as Class I areas. Air emissions from the four electric generating units (EGUs) at the two plants affected by this action cause or contribute to visibility impairment at nine Class I areas including Grand Canyon, Arches, Black Canyon, Bryce Canyon, Canyonlands, Capitol Reef, Mesa Verde and Zion National Parks and Flat Tops Wilderness Area. The EPA is finalizing the option in our January 14, 2016 co-proposal to partially approve and partially disapprove the June 2015 SIP revision and is promulgating a Federal Implementation Plan (FIP) to address the deficiencies identified in our proposed partial disapproval of Utah's regional haze SIP. The EPA is not taking any final action on a related October 20, 2015 SIP revision. The State retains its authority to submit a revised state plan consistent with CAA and Regional Haze Rule

(RHR) requirements. An approvable SIP submission will result in the modification or withdrawal of the FIP.

DATES: This final rule is effective August 4, 2016.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-R08-OAR-2015-0463. All documents in the docket are listed on the www.regulations.gov Web site. Publicly available docket materials are available either electronically through www.regulations.gov, or in hard copy at the Air Program, Environmental Protection Agency (EPA), Region 8, 1595 Wynkoop Street, Denver, Colorado 80202-1129. EPA requests that if, at all possible, you contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section to view the hard copy of the docket. You may view the hard copy of the docket Monday through Friday, 8 a.m. to 4 p.m., excluding federal holidays.

FOR FURTHER INFORMATION CONTACT: Gail Fallon, Air Program, EPA, Region 8, Mailcode 8P-AR, 1595 Wynkoop Street, Denver, Colorado, 80202-1129, (303) 312-6281, Fallon.Gail@epa.gov.

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I. Introduction

The purpose of federal and state regional haze plans is to achieve the national goal, declared by Congress, of restoring and protecting visibility at 156 federal Class I areas across the United States, most of which are national parks and wilderness areas with scenic vistas enjoyed by the American public. The national goal, as described in CAA section 169A, is the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I federal areas where such impairment results from man-made air pollution. States are required to submit SIPs that, among other things, ensure reasonable progress toward the national goal of remedying anthropogenic visibility impairment in federal Class I areas. Arizona, Colorado, and Utah have a wealth of such areas that are impacted by the Hunter and Huntington power plants, including Grand Canyon, Arches, Black Canyon,

Bryce Canyon, Canyonlands, Capitol Reef, Mesa Verde and Zion National Parks and Flat Tops Wilderness Area. The four units at the two power plants that are subject to the CAA BART requirements are large sources of NO_x,¹ and the NO_x emissions from these plants affect visibility² at some of the countries' most beloved Class I areas that are visited by millions of Americans. The CAA requires that such sources install and operate controls to limit visibility impairing pollutants; in this instance there are very cost-effective controls available for these units, which will operate for many years into the future.

We proposed action on Utah's June 4, 2015 and October 20, 2015 regional haze SIP submittals addressing NO_x and PM₁₀ BART requirements on January 14, 2016.³ The EPA conducted a public hearing for our proposed action in Salt Lake City, Utah on January 26, 2016. Our public comment period closed on March 14, 2016.

In this action, we are partially approving and partially disapproving the SIP submittal submitted by Utah on June 4, 2015, and taking no action on the State's October 20, 2015 SIP submittal. These submittals include actions intended to satisfy the State's obligations for the regional haze program's first planning period, including the obligation to submit a SIP containing emission limitations representing BART for NO_x and PM for each of the four subject-to-BART sources of visibility-impairing emissions. We are also promulgating a FIP to address the deficiencies we have identified in the portions of the SIP submittal that we are disapproving.

Utah's SIP submittal was to address the BART requirements for NO_x in part through reliance on a BART alternative program under 40 CFR 51.308(e)(2), which allows a state to implement such a BART alternative when the clear weight of the evidence demonstrates that it achieves greater reasonable progress than BART.⁴ Specifically, rather than installing and operating BART controls for its four subject-to-BART electric generating units (EGUs), Utah's SIP submittal relied on an alternative program, which included the

following: (1) The installation of upgraded combustion controls between 2006 and 2014 at the four BART units plus an additional EGU at PacifiCorp's Hunter plant; and (2) the shutdown of the Carbon plant, a non-BART source, to meet the BART requirements for emissions of NO_x. To meet its PM BART requirements, Utah's SIP submittal included the most stringent control technology at each of the four subject-to-BART EGUs. We provided a detailed explanation of the contents of Utah's June and October 2015 submittals along with an overview of earlier Utah regional haze submittals and EPA's actions on these earlier submittals in sections IV and III.E, respectively, of our proposed rule.⁵

EPA takes very seriously a decision to disapprove any state plan. Our intention is to approve a state's exercise of discretion if it can be supported. However, to approve a state plan EPA must be able to find that the plan is consistent with the requirements of the CAA and EPA's regulations. Although these are largely fact-based decisions, we focus strongly on consistently applying the regional haze requirements across this national program. After carefully considering the comments on our proposal, we determined that there is only one permissible outcome. Therefore, for the reasons described in our proposal and in this action, we find that the State's NO_x BART Alternative for the power plants is not consistent with the applicable statutory and regulatory requirements. As a result, EPA has determined that final disapproval is the only path that is consistent with the Act.

Although we are promulgating a federal plan, the State retains its authority to submit a revised state plan consistent with CAA and Regional Haze Rule requirements. If we determine that the SIP revision is approvable, regardless of whether or not its terms match those of our final FIP, we would propose to approve such a SIP revision. An approvable SIP submission will result in the modification or withdrawal of the FIP.⁶

A. Our Co-Proposals

When we reviewed the Utah regional haze SIP, we noted that some of the metrics the State included in its weight-of-evidence analysis presented to support the NO_x BART Alternative appear to support a conclusion that the BART Alternative achieves greater

reasonable progress than BART (*i.e.*, selective catalytic reduction (SCR) technology at the four BART units at Hunter and Huntington). However, we also noted that several other metrics in the State's analyses did not appear to support a conclusion that the BART Alternative achieves greater reasonable progress. The collection of information before EPA at the time of proposal presented a close call for us to decide whether to approve or disapprove the State's BART Alternative. Therefore, to allow all interested parties an opportunity to comment on either approach, we proposed and solicited comment on two possible conclusions and courses of action: (1) The State's submittal for NO_x BART meets the test under 40 CFR 51.308(e)(2)(i)(E) and we approve the BART Alternative; or (2) the State's submittal falls short of meeting this test and we disapprove the BART Alternative and promulgate a FIP for NO_x BART. We requested comment on all aspects of each proposal.

1. Summary of Proposed Full Approval of the SIP

In one option of our co-proposal, we proposed to approve the following aspects of the State's June 4, 2015 SIP submittal:

- NO_x BART Alternative, including: NO_x emission reductions from Hunter Units 1, 2, and 3; Huntington Units 1 and 2; and Carbon Units 1 and 2; and sulfur dioxide (SO₂) and PM₁₀ emission reductions from Carbon Units 1 and 2.
- BART determinations and emission limits for PM₁₀ at Hunter Units 1 and 2 and Huntington Units 1 and 2.
- Monitoring, recordkeeping, and reporting requirements for units subject to the BART Alternative and the PM₁₀ emission limits.

We also proposed to approve these elements of the State's October 20, 2015 SIP submittal:

- Enforceable commitments to revise SIP Section XX.D.3.c and State rule R307-150 by March 2018 to clarify emission inventory requirements for tracking compliance with the SO₂ milestone and properly accounting for the SO₂ emission reductions due to the closure of the Carbon plant.

2. Summary of Proposed Partial Approval and Partial Disapproval of the SIP and Proposal of a FIP

In the other option of our co-proposal, we proposed to approve these elements of the State's June 4, 2015 SIP submittal:

- BART determinations and emission limits for PM₁₀ at Hunter Units 1 and 2 and Huntington Units 1 and 2.

¹ Annual average NO_x emissions in tons per year for each of the four BART units for the period 2001–2003 were as follows: Hunter Unit 1 [6,380 tons/yr], Hunter Unit 2 [6,092 tons/yr], Huntington Unit 1 [5,944 tons/yr], Huntington Unit 2 [5,816 tons/yr].

² Refer to Tables 6 and 7 for visibility impacts.

³ 81 FR 2004 (Jan. 14, 2016).

⁴ For purposes of comparing the proposed BART Alternative to BART, Utah used most stringent NO_x control technology to represent BART, which is referred to as the BART Benchmark.

⁵ 81 FR 2004, 2012–2020 (Jan. 14, 2016).

⁶ Additionally, as discussed later in section I.B.3, at this time we not taking action on the State's October 20, 2015 enforceable commitment SIP submittal.

- Monitoring, recordkeeping, and reporting requirements for units subject to the PM₁₀ emission limits.

We proposed to disapprove these aspects of the State's June 4, 2015 SIP submittal:

- NO_x BART Alternative, including NO_x emission reductions from Hunter Units 1, 2, and 3; Huntington Units 1 and 2; and Carbon Units 1 and 2; and SO₂ and PM₁₀ emission reductions from Carbon Units 1 and 2.

We proposed to disapprove the State's October 20, 2015 SIP submittal.

We proposed promulgation of a FIP to address the deficiencies in the Utah regional haze SIPs that were identified in the proposed action. The proposed FIP included the following elements:

- NO_x BART determinations and emission limits for Hunter Units 1 and 2 and Huntington Units 1 and 2.
- Monitoring, recordkeeping, and reporting requirements for NO_x at Hunter Units 1 and 2, and Huntington Units 1 and 2.

B. Summary of the Basis for Our Final Decision

Based upon comments we received on our proposed action and our evaluation of both the State's submittals and those comments, in this final action we are partially approving and partially disapproving Utah's regional haze SIP submitted on June 4, 2015, and we are taking no action on Utah's regional haze SIP submitted on October 20, 2015. We are promulgating a FIP to address the deficiencies we have identified in the portions of the SIP that we are disapproving. Later we present a summary of the major points of our final decision regarding the Utah regional haze SIP submittal that we are acting on today in which we summarize which parts of the Utah regional haze SIP submittal we are approving and disapproving and which parts are cured by our FIP.

1. NO_x BART

As discussed in depth elsewhere in this document and in our separate Response to Comment (RTC) document, we considered the record before us and comments on both of our co-proposals, and have determined that the evidence does not clearly demonstrate that Utah's BART Alternative makes greater reasonable progress than BART; that is, we have determined that the State's Alternative is not clearly better than BART. Therefore, we are disapproving the BART Alternative contained in Utah's June 4, 2015 submittal and promulgating a FIP to satisfy the regional haze program's NO_x BART requirements.

In our co-proposal, to ensure our final decision was based on the best and most currently available data and information, we asked if interested parties had additional information in a number of areas, including: (1) Analysis related to the modeled visibility benefits of the BART Alternative compared to BART; and (2) other BART alternatives or BART control technology options related to what we proposed and that could be finalized as our FIP. We also asked if interested parties had additional information or comments on the proposed timeline of compliance.⁷ We explained that any supplemental information we received could lead us to adopt final SIP and/or FIP regulations that differ somewhat from the co-proposals presented in our proposed rule regarding the BART Alternative, BART control technology option or emission limits, or impact other proposed regulatory provisions.⁸ We did not receive any modeling analysis related to the benefits of the BART Alternative compared to BART or any suggestions for consideration of other BART alternatives or BART control technology options. However, we did receive extensive comments on our two possible evaluations of Utah's BART Alternative. As a result of these comments, we have revised some of the aspects of our evaluations of the State's BART Alternative metrics. Based on the revisions to our evaluations of the State's metrics, we have reassessed our co-proposed actions on the State's BART Alternative and determined that it does not demonstrate greater reasonable progress than BART. We provide our reassessment of the State's weight-of-evidence metrics in this section, and provide additional detail in our RTC document.

a. Regulatory Framework for BART Alternatives

To demonstrate that a BART alternative measure achieves greater reasonable progress than the BART requirements, EPA evaluates a SIP submittal to determine whether it demonstrates that the alternative will achieve greater reasonable progress toward natural visibility conditions than BART under 40 CFR 51.308(e)(3) or otherwise based on the *clear* weight of evidence.⁹ The BART Alternative rule requires that the alternative program must "clearly" be better than BART, which we have explained is "when there is confidence that the difference in visibility impacts between BART and

the alternative scenarios are expected to be large enough"¹⁰ to ensure that that the alternative is, in fact, better.

Therefore, as part of our evaluation of Utah's SIP we evaluated whether the differences in visibility impacts between BART and the State's BART Alternative are "large enough" to satisfy the *clear* weight-of-evidence requirement. The State of Utah opted to develop its SIP under the clear weight-of-evidence standard, and provided its analysis in the "Greater Reasonable Progress than BART" section of the SIP submittal.¹¹ As explained in our BART Alternative rule, the clear weight-of-evidence test follows these steps:¹²

(1) *Use information and data that can inform the decision.* Collect information that can be used to assess whether the proposed alternative measure will achieve greater reasonable progress than BART. The information is used to

¹⁰ 71 FR 60622 ("In showing that an alternative program is better than BART and when there is confidence that the difference in visibility impacts between BART and the alternative scenarios are expected to be large enough, a weight of evidence comparison may be warranted in making the comparison." (emphasis added)).

¹¹ This section of the State's SIP submittal presents the BART Alternative rule regulatory requirements, including EPA's description that the clear weight of evidence standard uses information to inform a decision while recognizing the relative strengths and weaknesses of that information. The Utah SIP Section XX that was submitted to EPA, was adopted by the Air Quality Board on June 3, 2015, and included the proposed provisions to address the NO_x BART requirements. Footnote 4 in that Section of the SIP referenced the State's greater reasonable progress demonstration. The document referenced in the footnote was titled "Staff Review 2008 PM BART Determination and Recommended Alternative to BART for NO_x, Utah Division of Air Quality, May 13, 2015" ("Utah Staff Review Report" at 11).

¹² 71 FR 60612, 60622 (Oct. 13, 2006). As we explained in adding to our final RHR the "clear weight of the evidence" standard, "[w]eight of evidence" demonstrations attempt to make use of all available information and data which can inform a decision while recognizing the relative strengths and weaknesses of that information in arriving at the soundest decision possible. Factors which can be used in a weight of evidence determination in this context may include, but not be limited to, future projected emissions levels under the program as compared to under BART, future projected visibility conditions under the two scenarios, the geographic distribution of sources likely to reduce or increase emissions under the program as compared to BART sources, monitoring data and emissions inventories, and sensitivity analyses of any models used. This array of information and other relevant data may be of sufficient quality to inform the comparison of visibility impacts between BART and the alternative program. In showing that an alternative program is better than BART and when there is confidence that the difference in visibility impacts between BART and the alternative scenarios are expected to be large enough, a weight of evidence comparison may be warranted in making the comparison. The EPA will carefully consider the evidence before us in evaluating any [state implementation plans] submitted by States employing such an approach." *Id.*

⁷ 61 FR 2004, 2007, Jan. 14, 2016.

⁸ *Id.*

⁹ 40 CFR 51.308(e)(2)(i)(E).

evaluate whether the *visibility* improvements at the Class I areas will be better under the alternative than under BART. Such information may include, but is not limited to, future projected emissions levels under the BART alternative as compared to under the BART benchmark; future projected visibility conditions under the two scenarios; the geographic distribution of sources likely to reduce or increase emissions under the program as compared to BART sources; monitoring data and emissions inventories; and sensitivity analyses of any models used.

(2) *Recognize the relative strengths and weaknesses of the information.* Evaluate the information and recognize the relative strengths and weaknesses of the metrics used. This process involves assigning weights to each piece of information that indicate the degree to which it supports a finding that the alternative program will achieve greater visibility benefits. Such a weighing system might find that: (i) The information *clearly* shows the alternative will achieve greater reasonable progress than BART; (ii) the information supports the alternative in some way, but not clearly; or (iii) the information does not support the alternative.

(3) *Carefully consider all the information to reach a conclusion.* Collectively consider the weights assigned to the individual pieces of information and consider the total weight of all the information to determine whether the proposed BART alternative will *clearly* provide for greater reasonable progress than BART at the impacted Class I areas.

Additionally, in this document, we occasionally point to the BART Guidelines for authority on the analysis of BART alternatives (e.g., consideration of 98th percentile CALPUFF modeling).¹³ We acknowledge that the BART Guidelines are not mandatory for the evaluation of BART alternatives and the Guidelines do not directly address this subject.¹⁴ However, our rules at 40 CFR 51.309 and the preamble for the provisions governing alternatives to source-specific BART determinations¹⁵ do not provide guidance on visibility modeling. We rely on the BART Guidelines here and in other actions involving BART alternatives because they provide a reasonable and

consistent approach regarding visibility modeling, as well as other aspects of a BART alternative, conducted as part of a weight-of-evidence analysis.

b. Utah's "Greater Reasonable Progress Than BART" Metrics

The State collected and evaluated information "from a number of different metrics . . . to compare the two scenarios."¹⁶ These nine metrics included: (1) Annual emissions of visibility-impairing pollutants; (2) improvement in the number of days with significant visibility impairment derived from CALPUFF modeling results; (3) 98th percentile modeling impact (deciview [dv]) results derived from CALPUFF modeling; (4) annual average impact (dv) derived from CALPUFF modeling results; (5) 90th percentile impact (dv) results derived from CALPUFF modeling; (6) timing of emissions reductions; (7) results from IMPROVE monitoring data; (8) energy and non-air quality benefits; and (9) costs. The State considered the information from these metrics and concluded that the weight-of-evidence shows that its alternative program will provide greater reasonable progress than BART.¹⁷

c. EPA's Evaluation of Utah's "Greater Reasonable Progress Than BART" Analysis

We evaluated the information for each of the nine metrics in the State's SIP submittal,¹⁸ as well as additional information submitted by commenters. As part of this evaluation, we assessed the relevance and strength of each metric, that is, we assigned each metric a weight.¹⁹ After determining if, and the extent to which, the information the State relied upon was "of sufficient quality to inform the comparison of visibility impacts between BART and the alternative program,"²⁰ we assessed the metrics collectively to determine whether the relevant evidence, considered as a whole, clearly demonstrated that the alternative program achieves greater visibility benefits.

Our initial review considered whether each of the nine metrics met the threshold regulatory requirement that information considered in a weight-of-evidence analysis be relevant to an assessment of visibility impacts. We find the State included two metrics, (1)

energy and non-air quality impacts and (2) cost, that are inconsistent with the greater reasonable progress analysis in the RHR because the metrics do not evaluate *visibility* benefits at the nine Class I areas impacted by the State's sources. Therefore, as discussed in detail later in sections I.B.1.c.viii and I.B.1.c.ix, we did not give this information any weight in our evaluation of whether the State has demonstrated that its BART Alternative achieves greater reasonable progress than BART.

Additionally, the State included information on the aggregate annual emissions of all three visibility-impairing pollutants emitted by the sources. However, in this particular instance the aggregate emissions data do not provide information on the likely visibility impacts of the State's alternative program as compared to BART. Therefore, as discussed in detail later in section I.B.1.c.i, we found that this information was inconclusive and does not weigh either in favor of or against the BART Alternative.

Next, we evaluated how the State recognized the strengths and weakness of the remaining six metrics. The State placed each metric in one of two categories: The information from the metric supported the BART Alternative, or it did not. The State determined that five of the metrics supported the BART Alternative²¹ and one metric, the 98th percentile CALPUFF modeling results, did not support the BART Alternative.²² However, contrary to the requirement to *weigh* the evidence,²³ which Utah's SIP acknowledged is part of the weight-of-evidence standard,²⁴ the SIP submittal did not assess the relative strengths and weaknesses of the metrics; that is, it did not explain the *weight* that the State assigned to each of the metrics it found supported the BART Alternative. In evaluating the SIP submittal, we assessed the relative strengths and weakness of each of the State's metrics to determine whether it was reasonable for the State simply to categorize the metrics into the two categories (the metric supported the BART Alternative or did not support the Alternative). In

²¹ See Utah Staff Review Report at p. 27 (listing factors the State suggested to support the BART Alternative in the "Summary of Weight of Evidence" section).

²² As discussed elsewhere, EPA disagrees with the State's evaluation of the 98th percentile metric.

²³ 40 CFR 51.308(e)(2)(i)(E).

²⁴ Utah Staff Review Report at 11 (the BART alternative regulatory provisions and EPA's description of the weight-of-evidence standard, including that a demonstration recognize the strengths and weaknesses of the information in arriving at the soundest decision possible, citing 71 FR 60612, 60622).

¹³ We also referred to the BART Guidelines as authority in our proposal.

¹⁴ The BART Guidelines are mandatory in this action regarding both the State's determinations of the BART Benchmark pursuant to 40 CFR 51.308(e)(2)(i)(C) and EPA's BART determinations in the FIP pursuant to 40 CFR 51.308(e)(1)(ii)(B).

¹⁵ 71 FR 60612, October 13, 2006.

¹⁶ Utah Staff Review Report at 12.

¹⁷ *Id.* at 27 and Utah's SIP, Section XX, Regional Haze (June 3, 2015) ("2015 SIP").

¹⁸ Utah Staff Review Report at pp. 13–29.

¹⁹ As discussed in this section, Utah did not assign a weight to each metric.

²⁰ 71 FR 60612, 60622.

addition to information in the submittal, we considered suggestions on the amount of “weight” that should be given to each of the metrics that were provided by commenters on our proposal, including the State.²⁵ As a result of our evaluation, we find that the State’s assessment of the metrics was inadequate because it did not recognize the relative strengths and weaknesses of the metrics on an individual basis. We also find that a proper recognition of the relative strengths and weaknesses, including the consideration that some metrics are more meaningful than others, shows that the BART Alternative does not achieve greater reasonable progress than BART.

We evaluated each of the State’s nine metrics and included: (1) An assessment of whether we agree as a factual matter with the State’s conclusion; and (2) the weight we would give to each metric. Our evaluation below includes the two metrics that we find contain information that is not relevant, and the one to which we did not assign any weight.

i. Annual Emissions Comparison of All Visibility-Impairing Pollutants

The State’s regional haze SIP submittal determined that the combined emissions of three key visibility-impairing pollutants will be lower under the BART Alternative scenario and that this supported the weight-of-evidence determination that the BART Alternative will provide greater reasonable progress than BART.^{26 27} We proposed to find that, since Utah’s BART Alternative provides greater emission reductions for two pollutants (SO₂ and PM₁₀), but that NO_x emissions would be greater under the BART Alternative, it is not appropriate to combine all three pollutants in the annual emissions comparison test to support the BART Alternative. Therefore, we further proposed to find that the annual emissions comparison of all three pollutants does not show that the BART Alternative is better than the BART Benchmark.²⁸

As a result of the comments received on our co-proposal, we have further

assessed the State’s evidence for this metric and while we have clarified our assessment, we have not changed our overall proposed findings. Although emissions of two visibility-impairing pollutants are less under the BART Alternative, emissions of one of the pollutants would be greater. Due to differences in visibility impacts and complex interactions between pollutants, it is not possible to discern the overall visibility impacts of the aggregate emission reductions in this case without modeling; as discussed elsewhere, we disagree with comments to the contrary. Therefore, while we consider that aggregate emission reductions is a relevant concept because it relates to visibility impacts, in this particular case we continue to find that it is not appropriate to combine all three pollutants in the annual emission comparison test. We thus find that this metric is inconclusive and does not weigh either in favor of or against the BART Alternative.

ii. Improvement in Number of Days With Significant Visibility Impairment

In its regional haze SIP submittal, Utah provided modeling results comparing the number of days with significant visibility impairment relative to natural visibility under the BART Alternative scenario to the number of days under the BART Benchmark. The State presented this information for two different thresholds of visibility impairment: 1.0 dv of impairment compared to natural visibility, and 0.5 dv of impairment. The State determined that the BART Alternative leads to an average of six fewer days per year with a visibility impact greater than 1.0 dv per year and 58 fewer days per year with a visibility impact greater than 0.5 dv at the nine Class I areas.²⁹ Utah also provided information in its submittal regarding the number of days with visibility improvement relative to baseline visibility (visibility conditions in 2001–2003) using a range of deciview thresholds (0.5 to 5.0 dv improvement

compared to baseline visibility conditions).³⁰

In EPA’s review, we considered this metric in our evaluation of the State’s weight-of-evidence analysis because the improvement in the number of days with significant visibility impairment relates to assessing the frequency and duration of visibility impacts. It is relevant to look at the results for the Class I areas individually because visibility impacts are location specific. The results for the average number of days with impacts over 1.0 dv show that seven of the nine Class I areas had the same result or were within one day of having the same result under both the BART Alternative and Benchmark. In the context of an entire year, a difference of one day is not particularly significant. Therefore, we find that the results from the average number of days with visibility impacts over the 1.0 dv threshold do not show the BART Alternative is better. We observe that the results for the average number of days with impacts over 0.5 dv show that the BART Alternative is better at five of nine Class I areas, and at four Class I areas the Alternative results in the same number of days with impacts greater than 0.5 dv as the Benchmark or is within two days of the same result (favoring the BART Alternative at each of the four where there is a two-day difference). Therefore, we find that the results from the 0.5 dv threshold show that the BART Alternative is marginally better.

iii. 98th Percentile Modeling Impact (dv)

In its regional haze SIP, the State determined that while the 98th percentile modeling impact showed greater reasonable progress under the BART Benchmark,³¹ several considerations led to the State’s conclusion that this metric does not give a complete picture of the visibility improvements that will be seen by visitors to Class I areas.³² Therefore, the State’s summary of the weight-of-evidence did not include the results from the 98th percentile modeling impact.³³ We assessed the State’s evidence for this metric and proposed to find that on the whole, when using this method, the results from the BART Benchmark are slightly better on average across all years and nine Class I areas

²⁵ The State’s Comment letter suggested the “weight” for several of the metrics.

²⁶ 2015 SIP at 25, and Utah Staff Review Report at 27.

²⁷ EPA derived the following emissions reductions for the BART Alternative from the Utah Staff Review Report at 10, by subtracting the total annual emissions for the BART Alternative from the total annual emissions for the BART Benchmark for each of the visibility-pairing pollutants: SO₂ 8,005 tpy, PM₁₀ 573 tpy, and NO_x ~ 5,721 tpy (NO_x is negative because NO_x emissions increase under the BART Alternative). This information is also provided in Table 4 of our proposed rule. (81 FR 2004, 2016.)

²⁸ 81 FR 2004, 2029.

²⁹ EPA unintentionally created some confusion with regard to this metric in our proposed rule by expressing this information as the *total* number of days with visibility impairment greater than 1.0 and 0.5 dv in Tables 7 and 8, 81 FR 2004, 2017, based on modeling results presented in SIP TSD Ch. 6, Summary of Visibility Modeling. The State did not highlight these particular modeling results in this manner in its Utah Staff Review Report; rather, the State expressed this metric only as the average number of days per year over the three years modeled. We considered these modeling results, and as discussed in our RTC document, find that the results marginally support the Alternative.

³⁰ See Utah Staff Review Report, pp. 19–22, and Ch. 6, Summary of Visibility Modeling, and 2015 SIP at 25.

³¹ Utah Staff Review Report at 24.

³² *Id.* at 25.

³³ See *id.* at 27 (“Summary of Weight of Evidence” section does not include 98th percentile modeling impact results).

(0.14 dv average difference). Also, this metric shows greater visibility improvement at five of nine Class I areas for the BART Benchmark. We proposed to find, consistent with the State's evaluation, that this metric favors the BART Benchmark and does not show that the BART Alternative is better.³⁴

As a result of the comments received on our co-proposal, we have further assessed the State's evidence for this metric and while we have clarified our assessment, we have not changed our overall proposed finding. We considered this metric in our evaluation of the State's weight-of-evidence analysis because the 98th percentile modeling results relate to assessing visibility impacts. We have considered all information, and consistent with the Agency's approach to assessing visibility benefits in both BART determinations and other determinations of "greater reasonable progress" using the CALPUFF model, have given most weight to the visibility impacts based on the 98th percentile air quality modeling results.³⁵

iv. Annual Average Modeling Impact (dv)

The State's regional haze SIP submittal stated that the average deciview impact metric shows the benefit from the BART Alternative will be achieved day in and day out in the Class I areas.³⁶ This metric shows greater average visibility improvement at five of nine Class I areas for the BART Alternative.

We assessed the State's evidence for this metric and proposed to find that the BART Alternative is only marginally better than the BART Benchmark based on the difference in overall averages between the two scenarios of 0.009 dv and that it shows less or equal visibility improvement than BART at four of the nine Class I areas. Therefore, we proposed to find that the information from the annual average metric does not support a conclusion that the BART Alternative achieves greater reasonable progress than the BART Benchmark.³⁷

³⁴ 81 FR 2004, 2030.

³⁵ See 81 FR 2004, 2021; 40 CFR part 51, appendix Y, section IV.D.5; 70 FR 39104, 39129 (July 6, 2005). See, e.g., 78 FR 79344 (Dec. 30, 2012) (proposed rule, FIP for Tesoro Refining and Intalco Refinery BART Alternatives); 79 FR 33438 (June 11, 2014) (final rule, FIP for Tesoro Refining and Intalco Refinery BART Alternatives); 79 FR 56322, 56328 (Sept. 19, 2014) (proposed approval of Arizona Apache BART Alternative); 80 FR 19220 (Apr. 10, 2015) (final approval of Arizona Apache BART Alternative). We provide examples of use of the 98th modeling results for BART determinations in the RTC.

³⁶ Utah Staff Review Report at 23.

³⁷ 81 FR 2004, 2030.

As a result of the comments received on our co-proposal, we have further assessed the State's evidence for this metric and we have clarified our assessment and finding about the State's evaluation. We considered this metric in our evaluation of the State's weight-of-evidence analysis because the annual average modeling results relate to assessing visibility impacts. Importantly, we find that the annual average metric is less relevant than the 98th percentile because it does not provide information on visibility benefits on the days most impacted by the sources, which has been the focus of prior BART determinations³⁸ and other determinations of "greater reasonable progress" that relied on CALPUFF modeling.³⁹ Averaging the modeling results over an entire year dilutes the emission controls' (and BART Alternative emission reductions) potential visibility benefits and is inconsistent with the basis of the CALPUFF modeling approach used by the State. Additionally, the annual average visibility impact metric does not show greater visibility improvements than the Alternative at four of the nine affected Class I areas, and the average difference between BART and the Alternative across all nine of these areas is relatively small (0.009 dv). For these reasons, we find that the annual average impact metric in Utah's weight-of-evidence analysis only marginally supports the BART Alternative.

v. 90th Percentile Modeling Impact (dv)

The State's regional haze SIP submittal determined that the CALPUFF modeling results from the 90th percentile deciview impact show that the BART Alternative will provide greater improvement.⁴⁰ We assessed the State's evidence for this metric and proposed to find that although there was greater visibility improvement at seven of nine Class I areas for the BART Alternative, it was questionable if the BART Alternative was better based on the difference in the two scenarios of 0.006 dv. We therefore proposed to find that it is questionable whether the 90th percentile supports a conclusion that the BART Alternative achieves greater reasonable progress.⁴¹

³⁸ 40 CFR part 51, appendix Y, section IV.D.5; 70 FR 39104, 39129 (July 6, 2005). We provide examples of use of this information for BART determinations in the RTC.

³⁹ See, e.g., 78 FR 79344, 79355 (Dec. 30, 2013) (proposed rule, FIP for Tesoro Refining and Intalco Refinery BART Alternatives in Washington), 79 FR 56322, 56328 (Sept. 19, 2014) (proposed approval of Arizona Apache BART Alternative).

⁴⁰ Utah Staff Review Report at 23–24, and 2015 SIP at 25.

⁴¹ 81 FR 2004, 2030.

As the result of the comments received on our co-proposal, we have further assessed the State's evidence for this metric and have clarified our assessment and finding. EPA has never used the CALPUFF 90th percentile results in other RH decisions, and we disapproved the use of the 90th percentile results for subject-to-BART modeling.⁴² Here, though, we find it is appropriate to consider the CALPUFF 90th percentile results in evaluating the State's weight-of-evidence analysis because this metric provides some additional information about visibility benefits. However, we note that the 90th percentile metric excludes more than a month's worth of visibility data, which significantly dilutes the overall visibility results achieved from potential control options, and is therefore less relevant than the 98th percentile. Furthermore, while the 98th percentile day reflects visibility benefits on the days on which the sources have the largest impacts, the State has not indicated that the 90th percentile day has any particular significance other than to provide an additional metric to consider. We also acknowledge that the difference between BART and the BART Alternative using the 90th percentile is relatively small (0.006 dv). Additionally, we disagree with commenters that suggested the 90th percentile metric is similar to the 20% worst day metric; the 90th percentile relates to a single value, the 110th highest impact day across three years for the scenario considered (*i.e.*, BART Alternative or BART Benchmark), whereas the 20% worst days metric describes visibility impacts from all sources on the average of the 20% worst visibility days. Therefore, while we considered the results from the 90th percentile to evaluate the State's weight-of-evidence analysis, we placed a very small amount of weight on this metric, and therefore find that this metric only marginally supports the BART Alternative.

vi. Timing of the Emissions Reductions

The State's regional haze SIP submittal included statements in the greater reasonable progress than BART analysis that the NO_x reductions from Huntington Units 1 and 2 and Hunter

⁴² In our North Dakota final action we explained that EPA addressed the appropriate interpretation of CALPUFF modeling results in the BART Guidelines within the context of subject-to-BART modeling and we rejected the use of the 90th percentile because it would be inconsistent with the Act. We explained that the use of the 90th percentile value would effectively allow visibility effects that are predicted to occur at the level of the threshold (or higher) on 36 or 37 days a year. 70 FR 39121.

Units 2 and 3 occurred earlier than was required by the rule, providing corresponding early and ongoing visibility improvement under the Alternative as compared to the BART Benchmark, citing to *WildEarth Guardians v. EPA*, 770 F.3d 919, 938 (10th Cir. 2014).⁴³

The State further asserted that the timing of emission reductions provided support for the weight-of-evidence determination that the BART Alternative will provide greater reasonable progress than BART. We assessed the State's evidence for this metric and recognized that the reductions from the BART Alternative would occur before the BART Benchmark because the controls at the Hunter and Huntington facilities have been achieving significant NO_x reductions since the time of their installation between 2006 and 2014.⁴⁴

As a result of the comments received on our co-proposal, we have further assessed the State's evidence for this metric. We considered the State's early emission reduction statement in our evaluation of the State's weight-of-evidence analysis because the reductions relate to assessing visibility impacts. We note that the State's weight-of-evidence analysis presents and considers only the early timing of emission reductions from the Hunter and Huntington units at which controls were installed before 2014.⁴⁵

We find that the timing of emissions reductions metric, which considers the early reductions from Hunter Units 2 and 3 and Huntington Units 1 and 2, supports a finding that the BART Alternative is better than BART.

vii. Monitoring Data at the Class I Areas (IMPROVE Network)

The State's regional haze SIP submittal determined that the BART Alternative provides greater reductions of SO₂⁴⁶ and that SO₂ is the most significant anthropogenic pollutant affecting Class I Areas that impacts visibility year-round, including throughout the high visitation seasons at

the National Parks in spring, summer, and fall.⁴⁷ The State thus concluded, working from assumptions regarding sulfate and nitrate formation based on historical trend data,⁴⁸ that the BART Alternative will provide greater reasonable progress than BART.

We assessed the State's evidence for this metric and proposed to concur with one of the State's findings. We proposed to find that visibility benefits associated with NO_x reductions are much more likely to occur in the winter months because this is when aerosol thermodynamics favors nitrate formation, while SO₂ emissions reductions should provide visibility benefits in all seasons. We also proposed to find that, as concluded by the Grand Canyon Visibility Transport Commission (GCVTC), and supported by the IMPROVE monitoring data presented by Utah, anthropogenic visibility impairment on the Colorado Plateau is dominated by sulfates.

Therefore, we proposed to concur with Utah's statement that sulfate is the largest contributor to visibility impairment at the affected Class I areas.

We proposed to disagree with the State's findings related to park visitation. While we explained that the BART Guidelines do mention visitation as something that can inform a control decision, EPA proposed to place little weight on the State's correlation of emissions reductions and park visitation because nothing in the CAA suggests that visitors during busy time periods are entitled to experience better visibility than visitors during off-peak periods.

As the result of the comments received on our co-proposal, we have further assessed the State's evidence for this metric and while we have clarified our assessment, our overall findings remain the same. We considered this metric in our evaluation of the State's weight-of-evidence analysis because the monitoring data relate to assessing visibility impacts. We conducted an analysis of 2013 and 2014 IMPROVE monitoring data for Canyonlands, the most impacted Class I area,⁴⁹ considering seasonal averages and the 20% best and worst days.⁵⁰ Our analysis

confirms that sulfate is a large contributor to light extinction year round and that nitrate contributions are highest in the winter season. Nonetheless, overall nitrate extinction at the affected areas is significant, particularly on the 20% worst days. We have taken the strength of the modeling results for winter months into consideration; however, contrary to the State's and other's suggestions that visibility improvements during seasons of peak Class I area visitation should carry more weight, we evaluate the visibility impacts for an entire year, regardless of the season. Therefore, we decided to place little weight on this metric and find that the monitoring data analysis metric in Utah's weight-of-evidence analysis only marginally shows the BART Alternative is better than the BART Benchmark.

viii. Energy and Non-Air Quality Benefits

The State's regional haze SIP submittal indicated in its weight-of-evidence assessment that the BART Alternative would avoid the energy penalty associated with operating the SCR units, *i.e.*, the controls assumed under the BART Benchmark. The State also cited non-air quality benefits of its Alternative, including lower fly ash production and reduced water usage associated with the shutdown of Carbon. However, the State's "Summary of the Weight of Evidence," which presented a summary and short evaluation of each of the metrics, did not reference this assessment.⁵¹

We assessed the State's evidence for this metric and proposed to find that because the benefits do not have direct bearing on whether the BART Alternative achieves greater reasonable progress, it is not material to our action whether we agree or disagree with Utah's assessment that the Alternative would reduce energy and non-air quality impacts relative to BART.

As a result of the comments received on our co-proposal, we have further assessed the State's evidence for this metric; however, we have decided not to alter our proposed finding. The purpose of a weight-of-evidence analysis is to determine whether a BART Alternative would achieve greater reasonable progress, which is measured in terms of visibility improvement.⁵² Thus, only metrics that are indicative of improvements in visibility are relevant in a weight-of-evidence analysis. Energy

section ILE of this document and in our RTC document.

⁵¹ Utah Staff Review Report at 27.

⁵² 40 CFR 51.308(d)(1), (e)(2)(i)(E).

⁴³ Utah Staff Review Report at 11, 27 ("The NO_x reductions at Huntington 1 and 2 and Hunter 2 and 3 occurred between 2006 and 2011, earlier than was required by the rule, providing an early and ongoing visibility improvement" and offering in footnote 14 that "[the] U.S. Circuit Court of Appeals for the 10th Circuit explicitly acknowledged that the consideration of early reductions was proper as part of a qualitative or clear weight of evidence approach to determining greater reasonable progress." (citing *WildEarth Guardians v. EPA*, 770 F.3d 919, 938 (10th Cir. 2014)). EPA agrees that it is appropriate to consider the timing of emission reductions for the Utah BART Alternative.

⁴⁴ 81 FR 2004, 2030.

⁴⁵ Utah Staff Review Report at 11.

⁴⁶ *Id.* at 27.

⁴⁷ *Id.* at 27.

⁴⁸ *Id.* at 12–19.

⁴⁹ Canyonlands was the most impacted Class I area in the State's BART Alternative modeling that assessed the visibility impacts from all three power plants (*i.e.*, Hunter, Huntington, and Carbon), as well as most impacted in EPA's modeling assessing the visibility impacts for the BART Benchmark for Hunter and Huntington.

⁵⁰ See spreadsheet entitled, EPA Analysis of 2013 and 2014 IMPROVE Monitoring Data for Canyonlands, in the docket. More detailed information regarding this analysis is available in

and non-air quality impacts do not provide relevant information on the relative visibility benefit of a BART Alternative as compared to BART. We, therefore, did not assign this metric any weight in our evaluation of the State's weight-of-evidence conclusion.

ix. Cost

The State's regional haze SIP indicated in its weight-of-evidence assessment that, although the State had not officially determined the cost of BART, it is clear that the BART Alternative would have significant capital cost savings to PacifiCorp and its customers. The submittal noted that the Carbon Plant has already been closed and the cost to ratepayers of replacing the power generated by that facility have already occurred. However, the State's "Summary of the Weight of Evidence," which presented a summary and short evaluation of each of the metrics, did not reference the cost comparison.⁵³

We assessed the State's evidence for this metric and proposed to find that because the described cost difference does not have a direct bearing on whether the BART Alternative achieves greater reasonable progress, it is not material to our action whether we agree or disagree with Utah's conclusion that the BART Alternative would have a lower cost impact to PacifiCorp than the BART Benchmark (*i.e.*, costs provided by PacifiCorp in its BART analyses of August 5, 2014, SIP TSD Chapter 2).

As a result of the comments received on our co-proposal, we have further assessed the State's evidence for this metric; however, we have decided not to alter our proposed finding. The purpose of a weight-of-evidence analysis is to determine whether a BART Alternative would achieve greater reasonable progress, which is measured in terms of visibility improvement.⁵⁴ The difference in the capital costs between BART and the BART Alternative does not provide information relevant to the scenarios' relative visibility benefits.⁵⁵ We therefore did not assign this metric any weight in our evaluation of the State's weight-of-evidence conclusion.

x. EPA's Evaluation of the State's Conclusions

The State's regional haze SIP submittal suggested that eight of the nine metrics considered by Utah support the BART Alternative, finding that one metric, the 98th percentile CALPUFF modeling metric did not support its BART Alternative. As explained earlier in this section, evidence in the SIP and from commenters demonstrates that four of these metrics have documented weaknesses and only marginally support the BART Alternative: Improvement in the number of days with significant visibility impairment predicted by modeling (analyzed using different thresholds); the annual average visibility impacts predicted by modeling; monitoring data trends collected at the Class I areas; and the 90th percentile impacts predicted by modeling. Additionally, while the timing of emission reductions metric does favor the State's BART Alternative, the emission reductions at issue are only a portion of the overall emission reductions claimed under the Alternative. The timing of these emission reductions does not alter our conclusion that, on balance, the Alternative has not been shown to result in greater visibility benefits than would BART. Finally, we did not assign any weight to three metrics in our evaluation of the State's weight-of-evidence analysis because we determined that the metrics for energy and non-air quality and cost considerations are not related to visibility and have no bearing on whether the BART Alternative achieves greater reasonable progress than the BART Benchmark, and that information from the annual emissions comparison of all visibility-impairing pollutants metric was inconclusive.

When we weighed the State's metrics (excluding the energy and non-air quality and cost metrics) that evaluate visibility collectively, considering the strengths and weaknesses of each metric and the magnitude of the differences in visibility benefit between BART and the Alternative, we find that it was not reasonable for the State to determine that the clear weight of the evidence favors the BART Alternative for the following reasons. We find that the State's characterization of the 98th percentile modeling results, the one metric that did not support its BART Alternative, was contrary to EPA's established interpretation of and reliance on that metric. The 98th percentile CALPUFF modeling metric takes into account peak visibility

impacts and carries the most weight. The 98th percentile visibility impact is a key metric recommended by the BART Guidelines and EPA has relied on this metric in evaluating prior regional haze actions that have included BART alternatives.⁵⁶ Furthermore, two factors which marginally support the BART Alternative (annual average modeled impact and 90th percentile modeled impact) are given little weight because they are considered to be less relevant metrics and show very small differences between the BART Alternative and the BART Benchmark, while another factor which marginally supports the BART Alternative (results from IMPROVE monitoring data) is also given little weight because of the need to consider visibility impacts during all times of the year, not just during peak visitation periods. Another factor which marginally supports the BART Alternative (improvement in number of days with significant visibility impairment) is given little weight because even though the BART Alternative is favored using a 0.5 dv threshold, the 1.0 dv threshold does not show that the BART Alternative is better. In addition, although a portion of the emission reductions under the Alternative were achieved prior to 2014, this does not diminish our fundamental finding that the quantity of reductions available under the Alternative would not result in greater visibility improvements than the emission reductions under BART. Therefore, the visibility metrics that favor the BART Alternative neither individually nor collectively clearly demonstrate that the BART Alternative will achieve greater reasonable progress at the nine Class I areas when weighed against visibility benefits predicted by the 98th percentile modeling results under BART.

In summary, we have relied on the standards contained in the RHR and the authority that Congress granted us to review SIPs to determine whether the State's SIP submittal complies with the minimum statutory and regulatory requirements. In determining SIP adequacy, we must exercise our judgment and expertise regarding complex technical issues, and it is entirely appropriate that we do so. Courts have recognized this necessity and deferred to our exercise of

⁵³ Utah Staff Review Report at 27.

⁵⁴ 40 CFR 51.308(d)(1), (e)(2)(i)(E).

⁵⁵ We also note that, consistent with our statements in the BART Guidelines, the capital cost of controls would not be a relevant consideration because it does not take into account the degree of visibility improvement associated with those controls. 40 CFR part 51, appendix Y, section IV.D.4.g. Therefore, even if we did consider cost as relevant in a weight-of-evidence analysis, which we do not, the capital cost of controls would not be the appropriate metric.

⁵⁶ See, e.g., 78 FR 79344 (Dec. 30, 2012) (proposed rule, FIP for Tesoro Refining and Intalco Refinery BART Alternatives); 79 FR 33438 (June 11, 2014) (final rule, FIP for Tesoro Refining and Intalco Refinery BART Alternatives); 79 FR 56322, 56328 (Sept. 19, 2014) (proposed approval of Arizona Apache BART Alternative); 80 FR 19220 (Apr. 10, 2015) (final approval of Arizona Apache BART Alternative).

discretion when reviewing SIPs.⁵⁷ We thus review a state's SIP submittal with the understanding that the state's discretion in developing an alternative measure "is subject to the condition that it must be reasonably exercised and that its decision is supported by adequate documents of its analysis."⁵⁸ In the present circumstance—as discussed in more detail in the proposed action and this final action—EPA was not able to find that the weight-of-evidence analysis satisfied the relevant regulatory requirements. Specifically, we find:

(1) The State's assessment of the metrics it found to support its BART Alternative was inadequate because it did not evaluate the relative strengths and weaknesses of the visibility metrics on an individual basis;

(2) The State did not consider the 98th percentile CALPUFF modeling metric, which did not support its BART Alternative, in a manner consistent with EPA's established interpretation of and reliance on that metric;

(3) The State's assessment of the metric that considered aggregate annual emissions of visibility-impairing pollutants was contrary to EPA's established interpretation of and reliance on that metric;

(4) The State's assessment relied on two metrics that are not consistent with the "greater reasonable progress" analysis because they are not related to visibility (energy and non-air quality and cost considerations);

(5) The State did not satisfy the requirement that it assess the collective weight of its evidence in a reasonable and adequately supported manner; and

(6) The SIP submittal lacked an explanation of why the information from all the metrics demonstrated that the difference in visibility impacts between BART and the Alternative was large enough to "clearly" demonstrate that the BART Alternative would achieve greater reasonable progress than BART.⁵⁹

Based on this evaluation, we find that, on balance, the evidence does not show that the Alternative clearly achieves greater visibility benefits than BART. Thus, the State has not satisfied the regulatory requirement in 40 CFR 51.308(e)(2) that a state's submittal of a BART alternative include a

"determination . . . based on the clear weight of evidence that the . . . alternative measure achieve greater reasonable progress than would be achieved through the installation and operation of BART at the covered sources." Therefore, we are disapproving the State's NO_x BART Alternative contained in its June 4, 2015 SIP submittal, including the NO_x emission limits for Hunter Units 1, 2, and 3; and the NO_x emission limits for Huntington Units 1 and 2; and the requirements for permanent closure of Carbon Units 1 and 2.⁶⁰

d. Remaining BART Alternative Criteria

The RHR establishes a number of additional regulatory criteria to be included in any demonstration that an alternative will provide for greater reasonable progress than BART. These criteria are set out at 40 CFR 51.308(e)(2)(i)(A)–(D) and (e)(2)(iii)–(v). In both co-proposals, we proposed to find that Utah's SIP submittal addressing the BART Alternative met these requirements.⁶¹ We received adverse and supportive comments on our proposed finding that the State had met these remaining requirements. We respond to these comments in our RTC document.

Having carefully considered the comments received, we have concluded that the State's SIP submittal generally met most of these requirements, as explained in our RTC document. As a result, our partial disapproval of the State's SIP submittal is based on our assessment that Utah failed to demonstrate based on the weight of evidence that the BART Alternative would provide for greater reasonable progress and not on any deficiencies in the state's demonstration that it had met

the additional regulatory criteria in 40 CFR 51.308(e)(2).

e. Monitoring, Recordkeeping and Reporting for Utah's BART Alternative

Section IV.B.3 of Utah's June 2015 regional haze SIP included enforceable measures and monitoring, recordkeeping and reporting requirements for the Utah BART Alternative and the State's PM₁₀ BART determinations. In our co-proposal we proposed to disapprove (in other words, to not make federally enforceable as part of the SIP) the monitoring, recordkeeping and reporting requirements located in SIP Sections IX.H.22 associated with the BART Alternative. This includes SIP Section IX.H.22, subsections a.ii, a.iii, b.ii, and c.i.⁶²

While we did not receive any comments on this element of Utah's regional haze SIP submittal in our co-proposal, the monitoring, recordkeeping, and reporting provisions in the submittal are linked directly to the emission limitations under the Alternative, which we are disapproving.⁶³ Our partial disapproval of the State's SIP submittal is based on our assessment that Utah failed to demonstrate based on the weight of evidence that the BART Alternative would provide for greater reasonable progress and not on any deficiencies in the State's demonstration that it had met the monitoring, recordkeeping, and reporting requirements under the RHR.

f. Basis for Our NO_x BART Determinations and FIP

Based upon comments we received on our proposed FIP, we revised our analysis of the cost of installing and operating NO_x BART controls at the four subject-to-BART EGUs. In particular, and as discussed at length in our RTC document, we revised the costs in response to comments from PacifiCorp that we incorrectly re-designed the SCR reactors. Having carefully considered the comments received, we concluded it was unnecessary to revise our analysis of visibility improvement or the other statutory BART factors. Our proposed action contains a full description of the five step BART analysis, the five BART factors, and our proposed BART determination. Because we have revised

⁵⁷ See, e.g., *Connecticut Fund for the Env't, Inc. v. EPA*, 696 F.2d 169 (2d Cir. 1982); *Michigan Dep't. of Env't. Quality v. Browner*, 230 F.3d 181 (6th Cir. 2000); *Montana Sulphur & Chem. Co. v. EPA*, 2012 U.S. App. LEXIS 1056 (9th Cir. Jan. 19, 2012).

⁵⁸ 71 FR 60612, 60621 (Oct. 13, 2006).

⁵⁹ The State's assessment of the overall weight of evidence states only that "[t]he weight of evidence shows that the alternative will provide greater reasonable progress than BART." Utah Staff Review Report at 27.

⁶⁰ We are disapproving SIP Sections IX.H.21, subsection (c), IX.H.22, subsections: a.iii–iii., b.ii, and c. We are also disapproving SIP Section XX.D subsections: 6.a. (the provisions in the "Regional Haze Rule BART Requirements" that cover the NO_x alternative measure); 6.c. ("BART for NO_x," including footnote 4 that references the State's Analysis in a separate document); 6.d. (the provisions in the "BART Summary" that cover NO_x and SO₂ emissions, including the references to use of approval orders and permitted limits to establish the emission limits, the statement that "the four EGUs also met the presumptive emission rates for both NO_x and SO₂ established in Appendix Y independently of the alternative programs", and references in Table 5 to "Permitted" (and the NO_x and SO₂ limits in that column), "Hunter 3", all provisions in the "Presumptive BART Rates" column NO_x and SO₂ emissions); 6.e. (the provisions in "Schedule for Installation of Controls" as the dates refer to emissions for sources that are in the proposed BART Alternative; and the discussion immediately following Table 6 that presents information about the emission limits also appearing in State-issued permits). Additional discussion appears in our RTC document.

⁶¹ 81 FR at 2021, 2025–26, 2027–28, 2032

⁶² As explained later, our co-proposal proposed to approve or conditionally approve the remainder of the monitoring, recordkeeping and reporting requirements associated with Utah's PM₁₀ BART determinations.

⁶³ However, we note that we are proposing conditional approval of the following regulations in Section IX.H.21(e), as discussed in section I.B.2.

our cost analysis, we provide updated tables containing the results of the cost analyses, including the summary tables that also show the visibility improvements associated with the controls under consideration (which we did not revise). Following these tables, we provide our final BART determination. Because the Hunter and

Huntington BART units are similar, our reasoning for the final BART determination applies to all four units. Table 1 shows the NO_x BART control technologies, associated cost, emission reductions, and the BART emission limitation for each source that is subject to the FIP. The costs in Table 1 reflect EPA's revised cost analysis. Please note

that the cost-effectiveness values for SCR with low-NO_x burners and separated overfire air (SCR + LNB/SOFA) were computed using an assumed emission rate of 0.05 lb/MMBtu on an annual basis, but for compliance purposes the NO_x emission limit for each unit is 0.07 lb/MMBtu, 30-day rolling average.

TABLE 1—EMISSION LIMITS, COSTS, AND COST EFFECTIVENESS FOR LNBs/SOFA WITH SCR FOR THE SOURCES SUBJECT TO THE FIP

Source	Technology *	NO _x Emission limit—lb/MMBtu (30-day rolling average)	Total capital cost (\$)	Total annualized cost (\$)	Average cost-effectiveness (\$/ton)
Hunter Unit 1	SCR + LNB/SOFA	0.07	\$130.6M	\$14.8M	\$2,697
Hunter Unit 2	SCR + LNB/SOFA	0.07	128.5M	14.5M	2,774
Huntington Unit 1	SCR + LNB/SOFA	0.07	128.3M	14.6M	2,871
Huntington Unit 2	SCR + LNB/SOFA	0.07	130.0M	14.7M	2,928

* The technology listed is the technology evaluated as BART, but sources can choose to use another technology or combination of technologies to meet established limits.

Tables 2 and 3 provide summaries of EPA's NO_x BART analysis of all feasible control options for Hunter Units 1 and

2, including the costs of compliance and visibility impacts. Please refer to our discussion in section I.B.1.f in regard to

how we selected BART from among these control options.

TABLE 2—SUMMARY OF EPA'S HUNTER UNIT 1 NO_x BART IMPACTS ANALYSIS

Control option	Annual emission rate (lb/MMBtu)	Emission reduction (tpy)	Total annual costs (million\$)	Average cost effectiveness (\$/ton)	Incremental cost effectiveness (\$/ton)	Visibility impacts *		
						Improvement (dv)	Days > 0.5 dv	Days > 1.0 dv
LNB with SOFA	0.21	3,042	\$1.2M	\$382	.....	0.846	330 (29)	218 (22)
LNB with SOFA and SNCR	0.16	3,735	3.8M	1,016	3,796	1.041	322 (37)	202 (38)
LNB with SOFA and SCR	0.05	5,500	14.8M	2,697	6,255 (compared to LNB with SOFA and SNCR) 5,561 (compared to LNB with SOFA).	1.545	311 (48)	188 (52)

* At the most impacted Class I area, Canyonlands National Park. The improvement in days over 0.5 and 1.0 dv provided by the control option relative to the baseline is presented in parentheses. See Table H.9. Air Quality Modeling Protocol: Utah Regional Haze Federal Implementation Plan, US EPA Region 8 (Nov. 2015); Docket Id. EPA-R08-OAR-2015-0463-0012.

TABLE 3—SUMMARY OF EPA'S HUNTER UNIT 2 NO_x BART IMPACTS ANALYSIS

Control option	Annual emission rate (lb/MMBtu)	Emission reduction (tpy)	Total annual costs (million\$)	Average cost effectiveness (\$/ton)	Incremental cost effectiveness (\$/ton)	Visibility impacts *		
						Improvement (dv)	Days > 0.5 dv	Days > 1.0 dv
LNB with SOFA	0.20	2,902	\$0.9M	\$298	.....	0.658	336 (23)	221 (19)
LNB with SOFA and SNCR	0.16	3,562	3.5M	968	3,913	0.822	331 (28)	218 (22)
LNB with SOFA and SCR	0.05	5,230	14.5M	2,774	6,632 (compared to LNB with SOFA and SNCR) 5,861 (compared to LNB with SOFA).	1.250	317 (42)	198 (42)

* At the most impacted Class I area, Canyonlands National Park. The improvement in days over 0.5 and 1.0 dv provided by the control option relative to the baseline is presented in parentheses. See Table H.10. Air Quality Modeling Protocol: Utah Regional Haze Federal Implementation Plan, US EPA Region 8 (Nov. 2015); Docket Id. EPA-R08-OAR-2015-0463-0012.

Tables 4 and 5 provide summaries of EPA's NO_x BART analysis of all feasible control options for Huntington Units 1

and 2, including the costs of compliance and visibility impacts.

TABLE 4—SUMMARY OF EPA'S HUNTINGTON UNIT 1 NO_x BART IMPACTS ANALYSIS

Control option	Annual emission rate (lb/MMBtu)	Emission reduction (tpy)	Total annual costs (million\$)	Average cost effectiveness (\$/ton)	Incremental cost effectiveness (\$/ton)	Visibility impacts *		
						Improvement (dv)	Days > 0.5 dv	Days > 1.0 dv
LNB with SOFA	0.22	2,440	\$0.8M	\$332	.....	0.851	249 (28)	153 (22)
LNB with SOFA and SNCR	0.17	3,185	3.5M	1098	3,609	1.113	244 (33)	143 (32)
LNB with SOFA and SCR	0.05	5,092	14.6M	2,871	5,830 (compared to LNB with SOFA and SNCR) 5,206 (compared to LNB with SOFA).	1.881	210 (67)	117 (58)

* At the most impacted Class I area, Canyonlands National Park. The improvement in days over 0.5 and 1.0 dv provided by the control option relative to the baseline is presented in parentheses. See Table H.11. Air Quality Modeling Protocol: Utah Regional Haze Federal Implementation Plan, US EPA Region 8 (Nov. 2015); Docket Id. EPA-R08-OAR-2015-0463-0012.

TABLE 5—SUMMARY OF EPA'S HUNTINGTON UNIT 2 NO_x BART IMPACTS ANALYSIS

Control option	Annual emission rate (lb/MMBtu)	Emission reduction (tpy)	Total annual costs (million\$)	Average cost effectiveness (\$/ton)	Incremental cost effectiveness (\$/ton)	Visibility impacts *		
						Improvement (dv)	Days > 0.5 dv	Days > 1.0 dv
LNB with SOFA	0.21	2,576	\$0.9M	\$365	.....	0.776	254 (23)	153 (22)
LNB with SOFA and SNCR	0.17	3,264	3.5M	1,075	3,730	1.016	244 (33)	149 (26)
LNB with SOFA and SCR	0.05	5,023	14.7M	2,928	6,368 (compared to LNB with SOFA and SNCR) 5,626 (compared to LNB with SOFA).	1.657	220 (57)	126 (49)

* At the most impacted Class I area, Canyonlands National Park. The improvement in days over 0.5 and 1.0 dv provided by the control option relative to the baseline is presented in parentheses. See Table H.12. Air Quality Modeling Protocol: Utah Regional Haze Federal Implementation Plan, US EPA Region 8 (Nov. 2015); Docket Id. EPA-R08-OAR-2015-0463-0012.

In our final BART determinations, we have taken into consideration all five of the statutory factors required by the CAA: Costs of compliance, energy and non-air quality environmental impacts of compliance, any existing pollution control technology in use at the source, remaining useful life of the source, and degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.

We received some comments on our proposed consideration of remaining useful life and energy and non-air quality environmental impacts. However, we have not changed our evaluation from the proposal of the energy and non-air quality environmental impacts of compliance and the remaining useful lives of the sources. We find that the remaining useful life of the Hunter and Huntington units of at least twenty years is considerable and does not require us to revise our amortization period for the costs of controls. We also find that the energy and non-air quality environmental impacts of the various control options do not significantly favor one option over another. Please see the proposal action and our RTC document for details.

We also received comments on our proposed consideration of existing pollution control technology in use at the source, in this case LNB/SOFA at all four BART units. For reasons explained later in the preamble and in our RTC document, we continue to use a baseline period for emissions (2001–2003) that

predates the installation of LNB/SOFA at the four BART units. We have considered the existing LNB/SOFA in several other ways. First, we considered them in selecting the control options to analyze for BART. Second, we considered them in determining the impacts of the control options, both by taking the LNB/SOFA into account in determining the proper NO_x rates for the post-combustion control options (selective non-catalytic reduction (SNCR) and SCR), and in computing the incremental cost-effectiveness values in the tables earlier. We also consider the existing LNB/SOFA in our discussion of incremental visibility benefits later. As explained later in the preamble and in our RTC document, this is a reasonable approach and consistent with other actions.

We now discuss the remaining factors, the costs of compliance and the degree of visibility improvement, and how we are weighing them in determining BART. At this point in time, EPA and the states have made a number of BART determinations for large coal-fired EGUs. EPA is taking into account the BART decisions made in other states to help frame our assessment of the cost and visibility benefits of control options in this action.⁶⁴ Specifically, we have

⁶⁴ As discussed in our proposal action, in the context of reasonable progress determinations, a comparison with another reasonable progress determination has been upheld by the Ninth Circuit Court of Appeals as a rational explanation for that

compared the average cost-effectiveness, incremental cost-effectiveness, visibility improvement, and incremental visibility improvement for the selected BART controls, SCR + LNB/SOFA, with BART determinations for coal-fired EGUs where the EPA and states have based those determinations on the same or similar metrics.

The most comparable determination is in EPA's final action on Wyoming's regional haze SIP, in which EPA promulgated a FIP for three units at Laramie River Station and determined NO_x BART to be SCR + LNB/SOFA for the three units.⁶⁵ On a per-unit basis, the visibility improvement at the most impacted Class I area from this control option ranged from 0.52 to 0.57 dv, and across all three units the sum of the improvement was 1.62 dv.⁶⁶ Thus, applying this control option to all three units of Laramie River Station was estimated to have a visibility benefit

determination. Nat'l Parks Conserv. Ass'n v. U.S. EPA, 788 F.3d 1134, 1148–49 (9th Cir. 2014).

⁶⁵ 79 FR 5032, 5047 (Jan. 30, 2014).

⁶⁶ As explained in our proposal, the BART Guidelines require consideration of the visibility improvement from the use of BART controls applied to the collection of emissions units that make up the BART source. Although this requires consideration of the visibility improvement from BART applied to the subject-to-BART source as a whole, states (and EPA) may also include the visibility benefits on a per unit basis as well in their evaluation of the BART factors. In this action we have considered both the per-unit visibility benefits as well as the source-wide visibility benefits. The source-wide visibility benefits of our selected BART control, SCR + LNB/SOFA, at all nine impacted Class I areas are presented and discussed later.

about the same as applying the same control option to just one of the Hunter and Huntington BART units (the visibility benefits in today's action at the most impacted Class I area range from 1.25 dv at Hunter Unit 2 to 1.881 dv at Huntington Unit 1). The visibility benefits of SCR + LNB/SOFA at Hunter or Huntington as a whole (2.948 dv for Hunter, 3.848 dv for Huntington) are significantly greater than at Laramie River Station.

The average cost-effectiveness for SCR + LNB/SOFA at Laramie River Station ranged from \$4,375/ton to \$4,461/ton, considerably higher than the corresponding values of \$2,697/ton to \$2,928/ton for the Hunter and Huntington BART units. The incremental cost-effectiveness for SCR + LNB/SOFA at Laramie River Station as compared to SNCR + LNB/SOFA ranged from \$5,449 to \$5,871/ton, which is generally in line with the corresponding values for the Hunter and Huntington BART units, \$5,830/ton to \$6,632/ton. Finally, the incremental visibility improvement for SCR + LNB/SOFA at the most impacted Class I area as compared to SNCR + LNB/SOFA for Laramie River Station was significant (0.25 dv to 0.29 dv), but is even more so for the Hunter and Huntington BART units (0.428 dv at Hunter Unit 2 to 0.748 dv at Huntington Unit 1). Thus, the selection of SCR + LNB/SOFA at the Hunter and Huntington BART units is very much in line with the selection of SCR + LNB/SOFA at Laramie River Station. This is particularly true given that Laramie River Station impacts four Class I areas, while the Hunter and Huntington BART units impact nine Class I areas.

In the same Wyoming action, our BART determinations for Dave Johnston Units 3 and 4 also provide a useful comparison. At Unit 3, we selected SCR + LNB/OFA as BART based on an assumed 20-year remaining useful life. Under that assumption, the average cost-effectiveness and incremental cost-effectiveness (as compared to SNCR + LNB/OFA) were \$2,635/ton and \$7,583/ton, respectively. We found these costs reasonable in light of a 0.51 dv improvement and a 0.12 dv incremental improvement at the most impacted Class I area. The average cost-effectiveness of SCR + LNB/SOFA at the Hunter and Huntington BART units, \$2,697/ton to \$2,928/ton, is comparable, while the incremental cost-effectiveness of SCR + LNB/SOFA at the Hunter and Huntington BART units, \$5,830/ton to \$6,830/ton, is less than at Dave Johnston Unit 3. On the other hand, the visibility benefit and incremental visibility benefit of SCR + LNB/SOFA at the

Hunter and Huntington BART units is considerably higher than that at Dave Johnston Unit 3, and the Hunter and Huntington BART units impact nine Class I areas as compared to five for Dave Johnston Unit 3. Thus, the selection of SCR + LNB/SOFA for the Hunter and Huntington BART units is very much in line with our BART determination for Dave Johnston Unit 3 (assuming a remaining useful life of 20 years).

In the Wyoming action, at the request of PacifiCorp we also analyzed an alternative compliance scenario for Dave Johnston Unit 3 that assumed a shutdown in 2027 and correspondingly a 9-year remaining useful life. As explained in the BART Guidelines, for BART units with a relatively short remaining useful life—in other words, less than the time period used for amortizing costs, which in this case was 20 years—the shorter time period can be used to amortize costs instead. Effectively, this increases the cost-effectiveness values; in the case of Dave Johnston Unit 3, the average and incremental cost-effectiveness of SCR + LNB/OFA increased to \$3,742/ton and \$11,781/ton, respectively. Considering these values against the visibility benefits, we found that the incremental cost-effectiveness of SCR + LNB/OFA in this instance was not reasonable. Of course, for the Hunter and Huntington BART units the incremental cost-effectiveness is much lower than this scenario and in line with the previous scenario assuming a 20-year remaining useful life, for which we selected SCR + LNB/OFA as BART. Similarly, for Dave Johnston Unit 4, as for the 9-year remaining useful life scenario for Unit 3, we rejected SCR + LNB/OFA due to a high incremental cost-effectiveness of \$13,312. This is again consistent with our determination here, given the much lower incremental cost-effectiveness numbers for SCR + LNB/SOFA at the Hunter and Huntington BART units.

There are other BART determinations in which SCR has been selected as BART (either alone or in conjunction with LNB and SOFA) based on similar metrics, although those determinations may not have explicitly discussed incremental cost-effectiveness and incremental visibility benefits on a per-unit basis. First, the State of Colorado selected, and the EPA approved, SCR as NO_x BART for Public Service Company's Hayden Station, Units 1 and 2.⁶⁷ Hayden Units 1 and 2 were equipped with first generation LNB and over-fire air (OFA) installed in 1999 as

the result of a consent decree to address other CAA requirements.⁶⁸ In its BART determination, Colorado considered these existing controls as given and included them in the baseline emissions, which is consistent with our approach here: Colorado included the Hayden combustion controls in the baseline because they were not installed for a proposed BART determination but for other CAA purposes. In contrast, we do *not* include the combustion controls at Hunter and Huntington because they were installed pursuant to a proposed BART determination.⁶⁹

Colorado analyzed as feasible controls upgraded LNB, SNCR, and SCR. Based on an average cost-effectiveness of \$3,385/ton and \$4,064/ton, incremental cost-effectiveness (as compared with SNCR + the existing LNB/OFA) of \$5,326/ton and \$7,331/ton, and visibility improvement of 1.12 dv and 0.85 dv at the most impacted Class I area, respectively, Colorado selected SCR (added to the existing LNB/OFA) as BART for Units 1 and 2. The average cost-effectiveness of SCR + LNB/SOFA at the Hunter and Huntington BART units, \$2,697/ton to \$2,928/ton, compares favorably with the average cost-effectiveness of SCR at the Hayden units, and the incremental cost-effectiveness of SCR + LNB/SOFA at the Hunter and Huntington BART units, \$5,830/ton to \$6,632/ton, is generally in line with the incremental cost-effectiveness of SCR at the Hayden units. The visibility improvement from SCR + LNB/SOFA at the most impacted Class I area for the Hunter and Huntington BART units, from 1.25 dv to 1.881 dv, compares favorably with the Hayden units. While Colorado appears to have not considered the incremental visibility benefits, these are also favorable for our selection of SCR + LNB/SOFA: 0.428 dv to 0.768 at the Hunter and Huntington units, as compared to 0.37 dv and 0.43 dv at Hayden Units 1 and 2, respectively. We also note that Hayden Station impacts eleven Class I areas, slightly more than Hunter and Huntington; however for six of those areas the impacts from Hayden Station are less than the impacts from Hunter and Huntington at the least

⁶⁸ Colorado Department of Health and Environment, Air Pollution Control Division, Technical Review Document, Renewal/Modification of Operating Permit 96OPRO132, Public Service Company—Hayden Station, Colorado, at 2 (2007–2008).

⁶⁹ We respond later in this action and in our RTC document about comments that this comparison should not be used because the baseline for Hayden included the existing controls.

⁶⁷ 77 FR 18069 (Mar. 26, 2012) (proposal); 77 FR 76871 (Dec. 31, 2012) (final).

impacted Class I area, Zion National Park.⁷⁰

Another comparable determination can be found in EPA's FIP for Arizona Public Service's Cholla Power Plant, Units 2, 3, and 4, in which EPA determined that NO_x BART was SCR for all three units.⁷¹ Similar to Colorado's determination for Hayden, EPA included the existing controls, LNB and OFA, in the baseline for the three units.⁷² EPA estimated average cost-effectiveness values for SCR (as added to the existing LNB/OFA) of \$3,114/ton, \$3,472/ton, and \$3,395/ton; and incremental cost-effectiveness values (as compared to SNCR + LNB/OFA) of \$3,257/ton, \$3,811/ton, and \$3,661/ton, respectively, for Units 2, 3, and 4. EPA's modeling showed a source-wide visibility improvement for SCR of 1.34 dv at the most impacted Class I area. In comparison, the source-wide visibility improvements at the most impacted Class I area for Hunter and Huntington from SCR + LNB/SOFA are much larger: 2.948 dv and 3.848 dv, respectively. While the average cost-effectiveness values at Cholla are somewhat higher than those for the Hunter and Huntington BART units, the incremental cost-effectiveness of SCR at the Hunter and Huntington BART units is considerably higher, at \$5,830/ton to \$6,632/ton. Despite that disparity in incremental cost-effectiveness, this

comparison still supports selection of SCR + LNB/SOFA for the Hunter and Huntington BART units, given the much greater magnitude of the visibility benefits and the fact that our other comparisons show the incremental cost-effectiveness of SCR + LNB/SOFA is still reasonable. Finally, Cholla Power Plant does impact somewhat more Class I areas, thirteen as opposed to nine for Hunter and Huntington; however, were we to sum the baseline impacts of Hunter and Huntington, they would be greater than those for Cholla.

Based on these comparisons to Laramie River Station, Hayden Station, Dave Johnston Units 3 and 4, and Cholla Power Plant Units 2, 3, and 4, the selection of LNB and SOFA with SCR as BART for the Hunter and Huntington BART units is fully justified.⁷³ For these four units, LNB and SOFA with SCR is very cost-effective, at \$2,697/ton to \$2,928/ton on an average basis (counting the costs and emission reductions from the combination of the three control technology elements), and at \$5,830/ton to \$6,632/ton on an incremental basis compared to LNB with SOFA and SNCR. Compared to LNB with SOFA, the incremental cost effectiveness of LNB and SOFA with SCR ranges from \$5,206/ton to \$5,861/ton, which is in line with the incremental cost effectiveness that supported the selection of LNB with

SOFA and SCR for Laramie River Station. For the Hunter and Huntington BART units, LNB and SOFA with SCR provides substantial visibility benefits at several Class I areas that are similar in magnitude to those from Laramie River Station. For example, the visibility improvement from that control option installed on a single unit is 1.342 dv at Arches National Park, 1.545 dv at Canyonlands National Park, and 1.113 at Capitol Reef National Park. These comparisons show that costs are justified in light of the substantial visibility benefits, both total and incremental. In addition, for each unit, SCR + LNB/SOFA provides a significant improvement in the number of days over 0.5 dv as compared to the baseline (ranging from 42 days improvement at Hunter Unit 2 to 67 days improvement at Huntington Unit 1).

As mentioned earlier, the BART Guidelines require consideration of the visibility improvement from the use of BART controls applied to the collection of emissions units that make up the BART source. Tables 6 and 7 summarize the source-wide visibility improvements from the installation of SCR + LNB/SOFA at both BART units at Hunter and both BART units at Huntington, as well as the visibility improvements from the installation of SCR + LNB/SOFA at the other impacted Class I areas.

TABLE 6—SUMMARY OF SOURCE-WIDE VISIBILITY IMPACTS AND IMPROVEMENTS FOR HUNTER

Class I area	Baseline visibility impacts			BART (SCR + LNB/SOFA) Impacts (improvements over baseline shown in parentheses)		
	Impacts (dv)	Days > 0.5 dv	Days > 1.0 dv	Impacts (dv)	Days > 0.5 dv	Days > 1.0 dv
Arches National Park (NP)	4.601	293	170	1.981 (2.62)	158 (135)	71 (99)
Black Canyon NP	1.097	68	22	0.481 (0.616)	14 (54)	1 (21)
Bryce Canyon NP	1.833	42	22	0.811 (1.022)	20 (22)	6 (16)
Canyonlands NP	5.356	359	240	2.408 (2.948)	223 (136)	111 (129)
Capitol Reef NP	4.606	175	118	2.171 (2.435)	114 (61)	55 (63)
Flat Tops Wilderness	1.281	77	31	0.537 (0.744)	22 (55)	1 (30)
Grand Canyon NP	1.891	49	32	0.730 (1.161)	25 (24)	9 (23)
Mesa Verde NP	1.327	82	32	0.514 (0.813)	21 (61)	4 (28)
Zion NP	0.963	29	14	0.369 (0.594)	10 (19)	4 (10)

Note: The baseline impacts are the combined impacts from all three units at Hunter, while the BART source is comprised of only units 1 and 2. EPA's evaluation of visibility under BART relies only on the visibility benefits associated with controls on the two BART units.

⁷⁰ See BART CALPUFF Class I Federal Area Individual Source Attribution Visibility Impairment Modeling Analysis for Public Service Company of Colorado Hayden Station Units 1 and 2, Colorado Department of Public Health, at 48 (Nov. 1, 2005).

⁷¹ 77 FR 42834 (July 20, 2012) (proposal); 77 FR 72512, 72514–15 (Dec. 5, 2012) (final).

⁷² In response to a comment about the use of this baseline, EPA explained that the three Cholla units had installed LNB/OFA and switched to a new source of coal with a much higher potential for NO_x emissions. Thus, the LNB/OFA had not been installed pursuant to a proposed state BART determination; instead they appear to have been

installed to accommodate the use of the new coal. This is again distinguishable from the situation for Hunter and Huntington.

⁷³ As explained later and in our RTC document, we reject the comparisons to BART determinations in Montana, Florida, and Nebraska.

TABLE 7—SUMMARY OF SOURCE-WIDE VISIBILITY IMPACTS AND IMPROVEMENTS FOR HUNTINGTON

Class I area	Baseline visibility impacts			BART (SCR + LNB/SOFA) impacts (improvements shown in parentheses)		
	Impacts (dv)	Days > 0.5 dv	Days > 1.0 dv	Impacts (dv)	Days > 0.5 dv	Days > 1.0 dv
Arches NP	3.887	237	146	0.848 (3.039)	67 (170)	18 (128)
Black Canyon NP	0.773	45	16	0.196 (0.577)	1 (44)	0 (16)
Bryce Canyon NP	1.221	36	19	0.326 (0.895)	4 (32)	0 (19)
Canyonlands NP	5.130	277	175	1.282 (3.848)	89 (188)	31 (144)
Capitol Reef NP	3.389	131	91	0.986 (2.403)	42 (89)	9 (82)
Flat Tops Wilderness	0.926	64	17	0.216 (0.710)	2 (62)	0 (17)
Grand Canyon NP	1.107	40	19	0.190 (0.806)	4 (36)	0 (19)
Mesa Verde NP	1.115	63	22	0.261 (0.854)	0 (63)	0 (22)
Zion NP	0.820	21	11	0.211 (0.609)	3 (18)	0 (11)

As can be seen from these tables, the baseline visibility impacts in dv at all nine Class I areas are large: Even at the least impacted Class I area, Zion National Park, Hunter and Huntington are each above the 0.5 dv threshold for contributing to visibility impairment. For Hunter, at the three most impacted Class I national park areas, Arches, Canyonlands and Capitol Reef, the baseline visibility impacts range from 4.601 dv to 5.356 dv. At these three Class I areas, the number of days with impacts over 0.5 dv and 1.0 dv range from 175 to 359, and from 118 to 240, respectively. The visibility benefits of BART (SCR + LNB/SOFA) at the three Class I areas are correspondingly large, ranging from 2.435 dv to 2.948 dv. The improvement in the number of days over 0.5 dv and 1.0 dv at these three Class I areas are large as well, ranging from an improvement of 61 to 136 days in the number of days over 0.5 dv and 63 to 129 days in the number of days over 1.0 dv. Even at the least impacted Class I area, Zion National Park, the visibility benefits of BART are significant, 0.594 dv, and 19 and 10 days in the number of days over 0.5 dv and 1.0 dv, respectively. Consideration of these source-wide visibility benefits confirms that SCR + LNB/SOFA at Hunter is fully justified in light of its reasonable costs.

For Huntington, at the three most impacted Class I national park areas, Arches, Canyonlands and Capitol Reef, the baseline visibility impacts range from 3.389 dv to 5.130 dv. At these three Class I areas, the number of days with impacts over 0.5 dv and 1.0 dv range from 131 to 271, and from 91 to 175, respectively. The visibility benefits of BART (SCR + LNB/SOFA) at the three Class I areas are correspondingly large, ranging from 2.063 dv to 3.538 dv. The improvement in the number of days with impacts from Huntington over 0.5 dv and 1.0 dv at these three Class I areas are similar to those of Hunter. Huntington has 89 fewer days with

impacts over 0.5 dv at Capitol Reef, 170 fewer days with such impacts at Archers, and 188 fewer days at Canyonlands. The number of days Huntington has impacts over 1.0 dv at these areas falls by 82 to 144 days. Even at the least impacted Class I area, Zion National Park, the visibility benefits of BART are significant. BART is projected to result in a 0.609 dv improvement at Zion the number of days with impacts over 0.5 dv and 1.0 dv fall by 18 and 11 days, respectively. Consideration of these source-wide visibility benefits confirms that SCR + LNB/SOFA at Huntington, as at Hunter, is fully justified in light of its reasonable costs.

Accordingly, for the Hunter and Huntington BART units, we find that BART for NO_x is SCR + LNB/SOFA, represented by an emission limitation of 0.07 lb/MMBtu (30-day rolling average). The BART emission limitation of 0.07 lb/MMBtu allows for a sufficient margin of compliance for a 30-day rolling average limit that would apply at all times, including startup, shutdown, and malfunction.⁷⁴ We are also finalizing our proposed monitoring, recordkeeping, and reporting requirements in our regulatory text for 40 CFR 52.2336; these requirements will ensure that the BART emission limitation is enforceable.

Under 40 CFR 51.308(e)(1)(iv), “each source subject to BART [is] required to install and operate BART as expeditiously as practicable, but in no event later than five years after approval of the implementation plan revision.” In light of the considerable effort involved to retrofit SCR, we determine that five years is as expeditiously as practicable. Therefore, the compliance deadline for the BART requirements will be five

⁷⁴ Emission limits such as BART are required to be met on a continuous basis. See 70 FR 39104, 39172 (July 6, 2005) (stating that emissions limits including BART are to be met on a “continuous basis” in the BART Guidelines, section V); 42 U.S.C. 7602(k) (noting that emission limits are to be on “a continuous basis”).

years from the date our final FIP becomes effective.

2. PM₁₀ BART

We are finalizing our proposed approval of Utah’s PM₁₀ BART determinations for Hunter Units 1 and 2 and Huntington Units 1 and 2. We have determined that Utah’s PM₁₀ BART determinations, emission limitations, and associated monitoring, recordkeeping and reporting for Hunter Units 1 and 2 and Huntington Units 1 and 2 meet the requirements of 40 CFR 51.309(d)(4)(vii) and the linked BART requirements in 40 CFR 51.308(e)(1).⁷⁵ We are approving SIP Section IX, Part H.21 subsections a through d and f (related to applicability, definitions, recordkeeping, and stack testing), and conditionally approving Subsection e (emission limitations shall apply at all times). We are approving SIP Section IX, Part H.22 subsections a.i and b.i. We considered and rejected comments on the validity of the State’s BART analyses for PM₁₀ and the State’s emission limitation of 0.015 lb/MMBtu on a 30-day rolling basis for the Hunter and Huntington BART units. For PM₁₀ reporting, we are finalizing our proposed conditional approval of this element in accordance with CAA section 110(k)(4), based on Utah’s commitment to submit specific measures to address the reporting requirement.⁷⁶ Utah’s letter commits to adopt and submit rule language that would require sources to report any deviation from the requirements of the regional haze SIP provisions, which would include the PM₁₀ emission limitations. The specific language is

⁷⁵ As discussed elsewhere, while we are approving the PM₁₀ emission limits in SIP Section IX, Part H.21, we are not approving into the SIP the “approval orders” (i.e., State-issued permits) that are referenced in SIP Section XX.D.6.d at 25 and 29).

⁷⁶ Letter from Department of Environmental Quality, State of Utah to EPA, DAQP-120-15 (Dec. 10, 2015).

detailed in Utah's commitment letter. We did not receive any adverse comments on our conditional approval of the recordkeeping requirements for the PM₁₀ emission limitations.

Pursuant to CAA section 110(k)(4), the State has one year from the date of this action to adopt and submit the necessary SIP revisions for SIP Section IX.H.21.e. If the State does not meet its commitment within the one year period, the conditional approval is treated as a disapproval. EPA finds that the necessary SIP revisions meet EPA's criteria for conditional approvals,⁷⁷ as the revisions appear to involve a limited amount of technical work, are anticipated to be non-controversial, and can reasonably be accomplished within the length of time for the State's adoption process.

3. Enforceable Commitment SIP

We are taking no action on Utah's enforceable commitment SIP, submitted on October 20, 2015. In its enforceable commitment SIP submittal, the State resolved to address double counting certain emissions reductions from the Carbon power plant closure under both the Utah BART Alternative and the SO₂ backstop trading program under 40 CFR 51.309. As we explained in our proposal, we interpret our authority to enable us to approve enforceable commitment SIPs under section 110(a)(2)(A) of the Act and other applicable sections as relevant (for our NO_x BART action, this is section 169A). However, since we are not approving the State's NO_x BART Alternative SIP submittal, which included emissions reductions from the Carbon power plant, there is no need for the elements of the enforceable commitment SIP. Additionally, because we are not taking action on the enforceable commitment SIP package submitted on October 20, 2015 we are not responding to comments on that SIP in this action.

II. Summary and Analysis of Major Issues Raised by Commenters

We received both written and oral comments at the public hearings we held in Salt Lake City. We also received comments by the Internet and mail. The full text of comments received from these commenters is included in the publicly posted docket associated with this action at www.regulations.gov. Our RTC document, which is also included in the docket associated with this action, provides detailed responses to

all significant comments received. In total, we received approximately 4,900 pages of significant comments. Later we provide a summary of the more significant comments received and a summary of our responses to them. Our RTC document is organized similarly to the structure presented in this section (e.g., Cost of Controls, BART Alternative CALPUFF Modeling, etc.). Therefore, if additional information is desired concerning how we addressed a particular comment, the reader should refer to the appropriate section in our RTC document.

PacifiCorp, conservation organizations (HEAL Utah, National Parks Conservation Association, and Sierra Club) and the National Parks Service (NPS) submitted detailed comments that include new cost and visibility modeling information.⁷⁸ Several government, tourism and industry organizations also submitted comments. Many general comments were made at the public hearing. We received approximately 400 comments through email and the www.regulations.gov Web site. We also received approximately 70,000 mass mailer comments from private citizens.

A. General Comments

Comment: Several commenters expressed concern over the accommodations provided at the public hearing. Several commented on the large number of attendees, and how this made it difficult for them to make their comments as well as hear those who were speaking. Commenters noted that many attendees were intimidated by the size of the hearing and by some of the other attendees, and suggested that many attendees left the hearing without commenting on the issues. There was concern that these departures may have led to an imbalance in opinions presented. Some commenters noted that some of the attendees at the hearing were not being cordial with the others and were unkind to those who expressed different opinions. Several commenters made requests for additional hearings, suggesting that additional hearings be located closer to the affected Class I areas and at locations that could accommodate a larger number of attendees.

Response: Several commenters expressed their dissatisfaction with EPA's public hearing arrangements. As required by section 307(d)(5) of the CAA the EPA provided an opportunity for the

public to submit written comments and voice concerns at the public hearing. In arranging the logistics for the public hearing, EPA's intent was to provide an opportunity for all members of the public to voice their opinions about the proposed rulemaking. The Salt Lake City library was chosen as the public hearing site because: (1) The library had reasonable accommodations to hold approximately 100 attendees; (2) the library was centrally located, and would be convenient for many members of the public to access; and (3) the library did not require a fee. The size of the venue was consistent with other hearings the EPA has conducted across the country.⁷⁹ Based on these considerations, the EPA had no reason to believe the venue could not accommodate the anticipated level of public participation or that it would not fulfill the purposes of and the Act's requirements for the hearing.

While the number of individuals attending the public hearing exceeded what we anticipated, we made adjustments throughout the day to accommodate the large numbers. For example, the library staff worked with us and set up broadcast speakers in the hallway so that those in the hallway could hear what was said during the hearing. The EPA could not allow the meeting room used for the public hearing to exceed its capacity limit in order to comply with the library's policies to comply with the fire code occupancy requirements. In response to the unkind statements made by some participants, the Hearing Officer reminded the crowd that the purpose of the meeting was to allow people to testify comfortably without being intimidated, and that people causing distractions would be asked to leave. In fact, some attendees who were causing distractions were asked to leave. Additionally, even though the turnout was larger than expected, EPA scheduled the opportunity for the public to speak based on their arrival time (with those arriving first, first allowed to speak); and the EPA accommodated all the potential speakers at the end of the scheduled hearing time, by extending the hearing until everyone who was present at that time and wanted to speak had done so. As a result the hearing was extended by approximately 20 minutes.

⁷⁹ Examples include: (1) The public hearing on FIP proposal on May 1, 2012 at the Lewis and Clark Library in Helena, MT; (2) the public hearing on FIP proposal on July 27, 2013 at the Laramie County Library in Cheyenne, WY; and (3) the public hearing on FIP proposal on October 13–14, 2011 at the North Dakota Department of Health Training Center in Bismarck, ND.

⁷⁷ See Memorandum from John Calcagni to EPA Regional Directors. "Processing of State Implementation Plan (SIP) Submittals" (July 1992), available at <http://www3.epa.gov/ttn/oarpg/t1/memoranda/siproc.pdf>.

⁷⁸ On May 19, 2015, PacifiCorp submitted late comments. These comments are included in the docket for this action and we address them in our RTC document.

The EPA determined that additional hearings were unnecessary, because the written comment period continued for approximately seven weeks after the public hearing, allowing for additional comments to be submitted. As explained in the proposed rule,⁸⁰ in addition to the public hearing, the EPA accepted written comments provided those comments were received on or before March 14, 2016. Therefore, while some of the members of the public may have left before they had an opportunity to speak at the hearing, they still had the opportunity to submit their comments either online or via mail to EPA for approximately seven weeks after the public hearing, as demonstrated in 81 FR 2004. The EPA gives just as much consideration to comments we receive in writing as we do to those we receive at public hearings.

B. EPA Authority and State Discretion

Comment: The State of Utah commented that EPA should approve its BART Alternative because it meets all of the current requirements of the CAA and the RHR found at 40 CFR 51.300 through 51.309. EPA is obligated to approve a SIP that meets all of the applicable requirements of the CAA. See 42 U.S.C. 7410(k)(3) (“In the case of any submittal on which the Administrator is required to act under paragraph (2), the Administrator shall approve such submittal as a whole if it meets all of the applicable requirements of this chapter.”). The Section 308 regulation grants states full discretion as to whether to adopt the BART Alternative. In the current proposed rule, EPA also acknowledges a state’s discretion in approving alternative measures: Finally, in . . . responding to concerns regarding “impermissibly vague” language in § 51.308(e)(3) that would allow a State to “approve alternative measure that are less protective than BART,” we explained that “[t]he State’s discretion in this area is subject to the condition that it must be reasonably exercised and that its decision be supported by adequate documentation of its analyses.” 81 FR 2004, 2012 (quoting 71 FR 60612, 60621 (Oct. 13, 2006)). Therefore, the alternative measure is within the state’s discretion, as long as it is adequately supported.

Response: We agree that states have discretion to adopt BART alternatives; however, as the commenter explains, the state’s discretion is subject to a number of requirements, including that it be reasonably exercised and adequately supported and that the state’s Alternative clearly provides

greater reasonable progress than BART. The CAA requires that states submit SIPs that contain such measures as may be necessary to make reasonable progress toward achieving natural visibility conditions, including the BART requirements. As EPA explained when promulgating the regional haze regulations, “[t]he overarching requirement of the visibility protection provisions of section 169A is to make reasonable progress toward the national goal of eliminating visibility impairment. If greater reasonable progress can be made through an approach that does not require source specific application of BART, EPA believes that approach would comport with this statutory goal.”⁸¹ States have the opportunity to adopt alternative measures in lieu of BART where the agency *reasonably concludes* that more reasonable progress will thereby be attained toward the national visibility goal.⁸² We explained these requirements in our co-proposal as follows: “[a]s described in our 2006 revisions to the RHR, concerning BART alternatives, ‘[t]he State’s discretion in this area is subject to the condition that it must be reasonably exercised and that its decisions be supported by adequate documentation of its analyses.’”⁸³

While states have discretion to decide whether to adopt a BART alternative in a SIP, such discretion does not extend to the authority to adopt SIPs that will not ensure reasonable progress toward the national visibility goal of preventing any future and remedying of any existing visibility impairment in Class I areas. Such an interpretation is also inconsistent with the legislative history, which stresses the importance of the “national goal”⁸⁴ of clear air quality in Class I areas and “preventing impairment of visibility,” noting that “the millions of Americans who travel thousands of miles each year to visit Yosemite or the Grand Canyon or the North Cascades will find little enjoyment if . . . upon reaching the Grand Canyon it is difficult if not impossible to see across the great chasm.”⁸⁵

Thus, we do not agree that Congress assigned states full discretion in developing SIPs, because it is not clear how EPA’s limited role under such a scenario would assure attainment of the national goal or imposition of the [better than] BART requirements where a

state’s BART alternative demonstration does not demonstrate that the alternative achieves greater reasonable progress. In view of the statutory requirements, it is logical that EPA would evaluate the reasonableness of the State’s BART Alternative analysis in light of the purpose of the regional haze program.

As detailed in the sections in our co-proposal and based on our evaluation and findings as detailed in Section I.B.1 of this document and in our RTC document, we determined that, on balance, the evidence does not show that the Alternative clearly achieves greater visibility benefits than BART. Because the State’s BART Alternative is not approvable, we are obligated to disapprove it, develop BART analyses, and then arrive at our own BART determinations for the four EGUs that are subject-to-BART.

Furthermore, this is a SIP review action, and we believe that EPA is not only authorized, but required to exercise independent technical judgment in evaluating the adequacy of the State’s regional haze SIP, including its BART Alternative analyses, just as EPA must exercise such judgment in evaluating other SIPs. In evaluating other SIPs, EPA is constantly exercising judgment about SIP adequacy, not just to meet and maintain the NAAQS, but also to meet other requirements that do not have a numeric value. In this case, Congress did not establish a specific numeric value by which to measure visibility improvement; instead, it established a reasonable progress standard and required that EPA assure that such progress be achieved via implementation, *inter alia*, of the Act’s BART requirement. Here, we are exercising judgment within the parameters laid out in the CAA and our regulations.

Our evaluation of the State’s BART Alternative is presented in section I.B.1 and in our RTC document.

Comment: The State commented that EPA mistakenly imposes additional inapplicable requirements in its evaluation of Utah’s regional haze SIP. Greater reasonable progress under Section 308(e)(2) can be demonstrated using either one of two methods: (1) Greater emission reductions than under BART (Section 308(e)(3)); or (2) the weight-of-evidence test, consisting of a number of requirements that the state weighs to conclude which option achieves greater reasonable progress (section 308(e)(2)). See 40 CFR 51.308(e)(2) and (3). The state has discretion to choose one method over the other. See *WildEarth Guardians v. E.P.A.*, 770 F.3d 919, 935–37 (10th Cir.

⁸¹ 64 FR 35714, 35739 (July 1, 1999).

⁸² *Id.* (emphasis added).

⁸³ 81 FR 2004, 2006 (Jan. 6, 2016) (citing 71 FR 60612, 60621 (Oct. 13, 2006)).

⁸⁴ 42 U.S.C. 7491(a)(1).

⁸⁵ H.R. Rep. No. 95–294, at 137 (1977).

⁸⁰ 81 FR 2004 (Jan. 14, 2016).

2014). The Tenth Circuit characterized the former approach as “quantitative” and the latter as “qualitative,” ultimately ruling that EPA can properly rely on qualitative factors in applying the “weight-of-evidence test.” See *id.* at 934–35 (EPA’s choice of qualitative standard was “permissible under the EPA’s interpretation of its regulations.”).

Utah submitted its BART Alternative under Section 308(e)(2), purposefully electing to make its determination that the alternative program achieves greater reasonable progress under the “weight-of-evidence” test. EPA analyzed Utah’s BART Alternative in both co-proposals under the section 308(e)(3) “greater emissions reductions test” in addition to the “weight-of-evidence” analysis. See 81 FR 2004, 2021, 2028. EPA proposed that Utah’s BART Alternative does not result in greater emission reductions because “the total NO_x emissions are greater under the BART Alternative than the BART Benchmark,” even though “in the aggregate there are fewer SO₂ and PM₁₀ emissions for the BART Alternative” *Id.* at 2028. EPA erroneously imposed Section 308(e)(3) requirements on Utah’s BART Alternative in addition to the Section 308(e)(2) weight-of-evidence test. EPA must withdraw its analysis of Utah’s BART Alternative under the greater emissions reductions test because, as Utah clearly explained, the State never intended its data to satisfy this test.

Response: We agree in part and disagree in part with this comment. In developing a BART Alternative SIP, we agree that a state has the discretion to choose between the “greater emission reduction” test (section 308(e)(3)) and the “weight-of-evidence” test (section 308(e)(2)). Utah’s comments clarify that they elected the weight-of-evidence test, and so we clarify and modify our evaluation of the State’s SIP submittal. We therefore clarify that we are not disapproving the SIP under the elements of the section 308(e)(3) test as we had proposed.⁸⁶

The State’s submittal, however, asserted that the BART Alternative is better than BART based in part on the metric that compared annual emissions of the three visibility impairing pollutants in the aggregate. There is no requirement in section 308(e)(2) for the State to compare annual emissions of visibility pollutants in the aggregate. Rather, as we explained in our proposal, we have addressed this issue under section 308(e)(3); our interpretation

under that provision also applies under section 308(e)(2). Specifically, if under section 308(e)(2) a state compares annual emissions of visibility in the aggregate to determine whether a BART alternative “results in greater emission reductions,” we examine whether each of the visibility causing pollutants is less under the alternative. For the reasons explained in our proposal and in section I.B.1.c.i of this document, we have not approved a BART alternative where one or more of the specific pollutants under the BART alternative is greater than it would be under the BART benchmark.⁸⁷

Therefore, as we did in our proposal, it is reasonable to apply our interpretation of the section 308(e)(3) “greater emission reductions” element under section 308(e)(2) as well, because the same concerns regarding the relationship between reductions of multiple pollutants and visibility improvements are also relevant in the weight-of-evidence context.

⁸⁷ EPA’s interpretation of the requirement under 40 CFR 51.308(e)(3) that the alternative measure “results in greater emission reductions” has been that the emission reduction comparisons are pollutant specific. We have applied this interpretation in evaluating BART alternatives and we have not looked at a total emissions profile that combines emissions of multiple pollutants to determine whether a BART benchmark or a BART alternative is “better,” except where every visibility impairing pollutant is reduced by a greater amount under the BART alternative. See 79 FR 9318, 9335 (Feb. 18, 2014) (proposed approval of Arizona BART Alternative for Sundt Unit 4); 79 FR 52420 (Sept. 3, 2014) (final approval of Arizona BART Alternative for Sundt Unit 4); 77 FR 18052, 18073–75 (Mar. 26, 2012) (proposed approval of Colorado BART Alternative, no modeling required where the 40 CFR 51.308(e)(3) test was met); 77 FR 76871 (Dec. 31, 2012) (final approval of Colorado BART Alternative). EPA has not relied on a total emissions profile that combines emissions of multiple pollutants together to determine that either BART or a BART alternative is “better,” because visibility modeling is the most appropriate method to assess the overall improvements in visibility impacts from control scenarios where reductions of multiple pollutants are considered, except where every visibility impairing pollutant is reduced by a greater amount under the alternative. As we have explained, “[e]ach of the five pollutants which cause or contribute to visibility impairment has a different impact on light extinction for a given particle mass, making it therefore extremely difficult to judge the equivalence of interpollutant trades in a manner that would be technically credible, yet convenient to implement in the timeframe needed for transactions to be efficient. This analysis is further complicated by the fact that the visibility impact that each pollutant can have varies with humidity, so that control of different pollutants can have markedly different effects on visibility in different geographic areas and at different times of the year.” See 64 FR 35714, 35743 (July 1, 1999). As other Agency actions on BART alternatives have explained, modeling assesses “both pollutants’ chemical aerosol formation mechanisms and impacts on visibility,” (see 78 FR 79344, 79355; Dec. 30, 2013) which allows evaluation of the “relative visibility impacts from the atmospheric formation of visibility impairing aerosols of sulfate and nitrate.” See 79 FR 33438, 33440 (June 11, 2014).

Comment: PacifiCorp asserted that EPA is not empowered under the CAA to require compliance with both the SIP proposal and the FIP proposal. As a practical matter, that is precisely what EPA proposes to do to the extent it approves the FIP proposal. This is because PacifiCorp already has implemented the SIP proposal as required by Utah law. If EPA were to select the FIP proposal, it would do so knowing⁸⁸ that PacifiCorp would be required to implement both the SIP proposal and the FIP proposal. Nothing in CAA or regional haze rules allows EPA to require such a result when the proposed action itself states that EPA “intends to finalize only one proposal.” See 81 FR 2004, 2006.

For all of the reasons stated earlier, EPA should approve the Utah SIP as stated in the SIP proposal, and should reject the FIP proposal. What EPA cannot do, and indeed is not empowered under the CAA to require, is compliance with both the SIP proposal and the FIP proposal.

Response: We disagree with this comment. As explained elsewhere, the CAA requires that states submit SIPs that contain such measures as may be necessary to make reasonable progress toward achieving natural visibility conditions, including the BART requirements. EPA is acting under its authority pursuant to the CAA in disapproving portions of the SIP submittal and promulgating the FIP. We have the duty to ensure that regional haze SIP submittals meet the requirements of the Act and the RHR.⁸⁹ While states have the opportunity to adopt alternative measures in lieu of

⁸⁸ EPA is well aware that the Utah SIP, as it has been implemented over time, became binding state law in regard to the Utah BART Units and ultimately the other units covered by the BART Alternative. This makes it particularly egregious that, even though EPA knew that PacifiCorp was required to expend hundreds of millions of dollars to fully implement the BART Alternative under state law, EPA said nothing about its intention to issue a competing co-proposal until after PacifiCorp had completed all of the emission reductions required under the Utah SIP. See Letter from Carl Daly to Bryce Bird, Re. EPA Region 8 Comments on Utah’s February 2015 Draft Regional Haze SIP Revision, at 1 (May 1, 2015) (commenting on the then-proposed Utah SIP including the BART Alternative). This secretive approach by EPA also caught the Utah Division of Air Quality off guard as explained in their oral comments during the January 26, 2016 hearing: “Throughout the SIP development process, we worked as regulatory partners, closely and extensively with EPA staff to ensure that Utah’s Alternative to BART SIP revision met all the requirements of the Clean Air Act and was approvable by EPA. The EPA should approve the option that Utah developed while in close consultation with EPA and not the option that Utah was not even aware was being prepared or under consideration until it was proposed in the Federal Register.”

⁸⁹ See CAA sections 169A and 110(k)(3).

⁸⁶ 81 FR 2004, 2028 (“Therefore, we propose to disapprove Section XX.D.6.c. of the Utah SIP under the test in 40 CFR 51.308(e)(3).”).

BART, their discretion in this area is subject to the condition that it must be reasonably exercised and that their decisions be supported by adequate documentation of its analyses.

Therefore, we do not agree that we are prohibited from identifying deficiencies in the Utah SIP submittal after the State rulemaking process is complete, and the commenter cites nothing in the Act to the contrary. While a state may adopt regulations that are effective as a matter of state law before EPA goes through its rulemaking process to evaluate the proposed SIP elements, those state rules are not federally enforceable because any SIP submittal “shall not be treated as meeting the requirements of this chapter until the Administrator approves the entire plan revision as complying with the applicable requirements.” 42 U.S.C. 7410(k)(3). The State’s and EPA’s roles in this process were understood in PacifiCorp statements. For example, in response to a question provided during rebuttal testimony that asked whether the regional haze rules are final, the Company explained that the 2011 Utah and Wyoming SIP submittals “are final insofar as state action is considered” and recognized that “these submittals have not yet been approved by the Environmental Protection Agency.”⁹⁰

The commenter suggests that measures in Utah’s SIP submittal became “binding state law in regard to the Utah BART Units” and “the other units covered by the BART Alternative” prior to EPA’s final action. The commenter merely suggests there are state law provisions but does not provide citations to any state law specific provisions.⁹¹ It appears, however, that the commenter may be referring to measures established pursuant to the State’s permit process.

If this is, indeed, what the commenter is referring to, both the CAA and our regulations require that emission limits be established pursuant to a BART or BART alternative determination, and be contained in an EPA-approved SIP.⁹² The fact that Utah chose to use its permit process to establish emission limits for its BART sources before EPA completed its review of the State’s SIP submittal has no bearing on EPA’s authority and obligation to conduct this review and to approve or, if necessary, disapprove the State’s submittal.

Finally, EPA’s comment letter on the State’s proposed SIP clearly explained that “we will only come to a final conclusion regarding the regional haze program for Utah when we take action on the program through our own public notice-and-comment rulemaking.”⁹³ Our letter further explained to the State that, “we are working towards meeting our legal obligations that have resulted from our January 2013 partial disapproval action for Utah’s May 2011 regional haze SIP.” EPA comment letters are intended to help improve any SIP revision that is under development, but they do not constitute agency action on that SIP revision or constitute any assurance of positive action on that revision upon submission and review. Instead and always, EPA has to formally discharge its responsibilities to review any SIP submittal. Moreover, the CAA does not require EPA to participate in state proceedings related to a state’s SIP submission, nor does it preclude EPA from carrying out its statutory duty to disapprove an inadequate SIP if EPA does not voice concerns during state proceedings. The CAA requires EPA to issue a FIP when states have not met their obligations under the CAA. Therefore, EPA is promulgating this FIP to fill the regulatory gap created by the

partial disapproval of Utah’s SIP submittals. Despite the existence of a FIP, the State retains its authority to submit future regional haze SIPs consistent with CAA and RHR requirements; we do not discount the possibility of a future, approvable SIP submission that results in the modification or withdrawal of the FIP.

C. Reasonableness Standard

Comment: One commenter asserted that EPA arbitrarily and capriciously applies two inappropriate standards to the Utah SIP proposal. The commenter stated that, in an attempt to replace Utah’s determination with its own, EPA imposes a “Reasonableness Standard” without concluding the Utah SIP contains data or methodological flaws—the limited circumstances under which courts have upheld use of this standard—and also imposes a “Complexity of Evaluation” standard which finds no support in the CAA or applicable regulations.

The commenter also asserted that EPA is prohibited from imposing additional requirements upon its approval/disapproval of a SIP that do not qualify as “applicable requirements.” EPA is not correct in its attempt in the proposed action to impose additional requirements on its evaluation of the BART Alternative and Utah SIP that are different than the applicable BART alternative requirements.

1. Reasonableness Standard –EPA asserts that Utah “has several options for making the greater reasonable progress determination [and it] elected to use two separate approaches.”⁹⁴ See 81 FR at 2006. EPA further states that it will evaluate both of those approaches in deciding whether to approve the Utah SIP. EPA then makes the blanket assertion that “the State’s discretion in this area is subject to the condition that it must be reasonably exercised and that its decisions be supported by adequate documentation of its analysis.” (“Reasonableness Standard.”) See 81 FR at 2006. Although the use of words like “reasonable” and “adequate” have common sense appeal in the abstract, EPA may not apply this standard in a way that allows EPA to discard the state’s discretion and instead impose EPA’s own will.

In addition, the present circumstances regarding the SIP proposal are far different than those circumstances in

⁹⁰ Rebuttal Testimony of Cathy S. Woolums, at 26. (June 30, 2011). (Available in the docket at <https://www.regulations.gov/#/documentDetail;D=EPA-R08-OAR-2015-0463-0167>).

⁹¹ Utah’s Effective rule explains that “[w]hile Utah has chosen to meet the NO_x BART requirement through alternative measures . . . the enforceable emission limits for both NO_x and SO₂ established in the approval orders and in the SIP for the four EGU’s also met the presumptive emission rates for both NO_x and SO₂ established in Appendix Y independently of the alternative program.” Effective Rule at page E-12, Section XX, p. 168 (adopted by the Board on June 3, 2015), available in the docket at <https://www.regulations.gov/#/documentDetail;D=EPA-R08-OAR-2015-0463-0002>. The presumptive emission limits in the BART Guidelines are rebuttable. The presumptive emission limits apply to power plants with a total generating capacity of 750 MW or greater insofar as these sources are required to adopt emission limits at least as stringent as the presumptive limits, unless after considering the five statutory factors, the State determines that the presumptive emission limits are not appropriate.

⁹² Congress required EPA to promulgate regulations to assure “reasonable progress” toward meeting the national goal and compliance with section 169A. The regulations require the submission of regional haze SIPs for states with Class I areas within their borders and states whose emissions “may reasonably be anticipated to cause or contribute to any impairment of visibility” in a Class I area outside their borders. 42 U.S.C. 7491(b)(2), 7491(e)(2). All SIPs must include “enforceable emission limitations and other control measures, means, or techniques . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of [the Act].” CAA section 110(a)(2)(A). Regional haze SIPs must include emission limits, compliance schedules, and other measures “as may be necessary to make reasonable progress toward meeting the national goal.” 42 U.S.C. 7491(b)(2).

⁹³ Letter from Carl Daly to Bryce Bird, Re. EPA Region 8 Comments on Utah’s February 2015 Draft Regional Haze SIP Revision, at 1 (May 1, 2015). (Available in the docket at <https://www.regulations.gov/#/documentDetail;D=EPA-R08-OAR-2015-0463-0160>).

⁹⁴ As explained below [referring to PacifiCorp’s comment document], EPA is simply wrong in concluding that Utah used two separate approaches to demonstrate greater reasonable progress. Therefore, EPA’s stated basis for imposing the Reasonableness Standard does not support EPA’s effort to do so.

which courts have upheld EPA's use of a similar Reasonableness Standard in other regional haze settings. For example, in *North Dakota v. EPA*, 730 F.3d 750, 760 (8th Cir. 2013), the court allowed EPA's use of the Reasonableness Standard under those circumstances where the state's BART determination contained "data flaws that led to an overestimated costs of compliance." Also, *Oklahoma v. EPA*, 723 F.3d 1201, 1212 (10th Cir. 2013) reached a similar conclusion based on "methodological flaws."

In the case of the SIP proposal, however, EPA proposes to approve the BART Alternative based on compliance with the applicable BART alternative requirements⁹⁵ and without also concluding that the BART Alternative contains "data flaws" or "methodological flaws." Therefore, the factual bases for allowing EPA to apply a Reasonableness Standard do not exist in regard to the BART Alternative and EPA should not attempt to apply such a standard here—particularly as a basis for rejecting the BART Alternative.⁹⁶

2. Complexity of Evaluation Standard—EPA also is wrong in its attempt to count among applicable requirements the unsupported conclusion that the "complexity of our evaluation" somehow necessitates EPA soliciting comments not only on the SIP proposal, but also on the competing FIP proposal. See 81 FR 2006.⁹⁷ Even taking at face value the assertion that analyzing

the Utah SIP is "complicated," that alone does not require EPA to evaluate the Utah SIP differently than any other regional haze SIP, nor does it justify EPA in presenting dueling co-proposals.⁹⁸ In other words, EPA has simply conjured up this new "complexity" requirement⁹⁹ out of thin air in an attempt to support its offering of the competing FIP proposal. EPA is acting arbitrarily and without legal authority by seeking comment on the FIP proposal based on what EPA calls the "complexity of our evaluation" and for this reason EPA should withdraw the FIP proposal and approve the SIP proposal as proposed.

Response: We disagree with most of these comments. First, we disagree that we have used a "reasonableness standard" in a manner that is inconsistent with our prior actions or as a way to limit the State's discretion. As discussed elsewhere, EPA has a duty to review Utah's regional haze SIP, including its BART Alternative, for compliance with the applicable requirements of the CAA and the RHR. Based on our review of the SIP, we proposed to determine that certain elements of Utah's regional haze SIP met the applicable requirements, and we proposed to approve those elements. However, for the reasons explained in detail in our proposed action and elsewhere in this document, we have concluded that, with regard to other elements, the State did not exercise its discretion in a reasonable manner, *i.e.*, in a manner consistent with the requirements and goals of the CAA and RHR. Based on these findings, we are

required to partially disapprove Utah's regional haze SIP submittal.

As discussed in detail elsewhere, the CAA provides EPA with the authority to review and reject an inadequate regional haze SIP submittal. *Oklahoma v. EPA*, 723 F.3d 1201, 1207–08 (10th Cir. 2013) (EPA may not approve a submittal that does not adhere to applicable statutory and regulatory requirements). Contrary to the commenter's assertions, our analysis and decision here is entirely consistent with the *North Dakota* and *Oklahoma* decisions. The RHR requires a state to demonstrate that its BART alternative achieves greater reasonable progress than BART, 40 CFR 51.308(e)(2), and Utah chose to make this demonstration using a weight-of-evidence analysis. In our review, EPA found a number of flaws in this analysis. Based on this evaluation and findings as detailed in Section I.B.1 of this document and in our RTC document, we determined that, on balance, the evidence does not show that the Alternative clearly achieves greater visibility benefits than BART.

Second, we disagree with the assertions regarding creation of a new complexity standard. The commenter misunderstands and misconstrues our proposed action. We did not create a new complexity standard, rather we explained that we were considering complex information and that it was a close call for EPA to decide whether the evidence presented by the State clearly demonstrated that the BART Alternative would achieve greater reasonable progress than BART (the complexity of our evaluation leads us to propose and solicit comment on two conclusions and courses of action because several of the metrics *appear to* support the State's analyses, while others do not appear to support the Alternative).¹⁰⁰ Contrary to the commenter's assertions, we merely explained that the information in the State's SIP submittal was complex; we did not create a new standard by which to evaluate SIP submittals. Our proposed action clearly explained that some metrics appeared to support approval, while others metrics appeared to support a disapproval.

Therefore, given that EPA's evaluation of the information before us presented a close call, and in order to provide a fair and meaningful process for *all* members of the public, we used the co-proposal approach. This approach provided an opportunity for the public to comment on both potential courses of action, *i.e.*, approval or disapproval of the State's BART Alternative. Recognizing the

⁹⁵ See generally 81 FR 2004, 2021–26.

⁹⁶ This is not to say that EPA lacks any role in reviewing and approving the Utah SIP. Indeed, the latest court to weigh in on EPA's review authority makes clear that "Congress intended that EPA, not the states alone, ultimately ensure that state determinations as to regional haze comply with the [Clean Air] Act. . . ." *Arizona ex rel. Darwin v. EPA*, Nos. 13–70366, 13–70410, 2016 U.S. App. LEXIS 3196, at *19–20 (9th Cir. Feb. 24, 2016). Although PacifiCorp agrees that EPA has a role to play in making sure the Utah SIP complies with the CAA and applicable requirements, it also notes that EPA must do so in a way that does not undermine the role of states like Utah to which "Section 169A [of the CAA] gives. . . substantial responsibility in determining appropriate BART [and BART Alternative] controls." The court goes on to make clear that "EPA may not disapprove reasonable state determinations that comply with the relevant statutory and regulatory requirements." *Id.* at *22. Such is the case with the Utah SIP.

⁹⁷ EPA attempts to further support this contrived "complexity" requirement by repeatedly stating that such a requirement exists, as if repetition alone somehow can bring an imaginary requirement into existence (*i.e.*, "In light of the variety of metrics Utah used, this is a complicated analysis. . . ."; "The complexity of our evaluation leads us to propose and solicit comments on two conclusions and two courses of action. . . ."; "Given the complexities in evaluating these co-proposals, EPA wants to ensure that our final decision is based on the best and most currently available data and information, and is taken with the fullest possible consideration of public input.") See 81 FR 2004, 2006.

⁹⁸ The Tenth Circuit Court of Appeals, which considered whether EPA's approval of a BART Alternative for SO₂ emissions was appropriate, did not conclude that EPA's analysis of the alternative program was, by its nature, more complicated than a BART analysis. See generally *WildEarth Guardians v. EPA*, 770 F.3d 919 (10th Cir. 2014).

⁹⁹ EPA further attempts to justify its rationale for considering the FIP proposal by asserting, as explained in footnote 3, the need to "ensure that our final decision is based on the best and most currently available data and information, and is taken with the fullest possible consideration of public input." EPA already is charged with ensuring that any final decision is based on the best current data and information available. See 71 FR 60612, 60622 (Oct. 13, 2006) (final rule on revisions to provisions governing alternative source-specific BART determinations); see also 5 U.S.C. 706(2). EPA already is required to make a decision based on the fullest possible consideration of public input. See 5 U.S.C. 553(c). Re-stating these fundamental principles does not allow EPA to bootstrap itself into also considering a competing coproposal (the FIP proposal) when the SIP proposal already meets all Applicable BART Alternative Requirements as EPA itself has proposed to conclude. *Arizona ex rel. Darwin* at *22 (stating that "EPA may not second-guess reasoned, legally compliant state decisions") (internal citations and quotations omitted).

¹⁰⁰ 81 FR 2004, 2006 (Jan. 14, 2016) (emphasis added).

information before the Agency was possibly susceptible to both interpretations, our two proposed conclusions and courses of action were as follows: “(1) The State’s submittal meets the test above and we approve the BART Alternative; or (2) the State’s submittal falls short of meeting this test and we disapprove the BART Alternative and promulgate a FIP for NO_x BART.”

We exercised our rulemaking discretion and structured the action using the co-proposal approach so that our action would enable all interested parties to have the opportunity to provide meaningful and timely comment on either or both approaches. In structuring the action in this way, the interested public had notice of the proposals under consideration and whether they had interests at stake. This balanced approach was fair in that it provided all interested parties with the options EPA contemplated in taking final action, as well as providing an opportunity to comment on the full range of potential actions. The commenter cites to no CAA provision that restricts EPA’s authority to present co-proposals. EPA often provides alternative approaches for final Agency action in our SIP rulemaking proposals, as we did here. Additionally, even assuming that EPA’s proposed action on the Utah regional haze SIPs articulated new “complexity” grounds for evaluating a regional haze SIP, the proposed action provided the public with the opportunity to comment. As evidenced by the commenter’s submission, the commenter had the opportunity to provide input on this purported new standard to evaluating the Utah regional haze SIP and to identify any concerns associated with the statements at issue. Therefore, even if we had created a new complexity standard, which we did not, it would have been properly proposed and applied in this instance.

As explained above, the EPA proposal identified several weaknesses and flaws in the State’s SIP submittal in the proposed rulemaking,¹⁰¹ and as

¹⁰¹ Our proposal evaluated the State’s use of the information from the metrics and identified weaknesses and flaws, for example: (1) The State’s characterization of the 98th percentile modeling results that did not support its BART Alternative, was inconsistent with EPA’s interpretation of and reliance on that metric; (2) the comparison of the results from the total annual emissions reductions was inconsistent with how we have interpreted our regulations; (3) the results from the modeling for the number of days the Alternative provided significant visibility impairment showed mixed results, with some results favoring the Alternative, while other results did not support the Alternative; (4) the annual average metric only marginally supported the Alternative, and showed less or equal visibility

explained in this final action, other commenters have made us aware of additional weaknesses and uncertainties in the SIP submittal.¹⁰² Therefore, EPA is finalizing our co-proposal to disapprove the BART Alternative and promulgate a FIP for NO_x BART, which this commenter recognizes EPA has a role and authority to do.

Furthermore, as explained elsewhere, we appreciate and clarify in this final action that the State did not intend to have its BART Alternative evaluated under both the 40 CFR 51.308(e)(2) and section 308(e)(3) tests. We, therefore, based our final action on our evaluation of the State’s submittal under § 51.308(e)(2)’s weight-of-evidence test.

Finally, regarding the commenter’s cross-reference to comments dated August 26, 2013, we explained in our final action in the Wyoming regional haze rulemaking that we disagreed with the comments in that context and we continue to disagree here.¹⁰³

at four of nine Class I areas; and (5) the energy and non-air quality and cost metrics do not have a direct bearing on whether the Alternative achieves greater reasonable progress.

¹⁰² Our RTC document provides details on the additional weaknesses and uncertainties that commenters brought to our attention.

¹⁰³ “As explained in our proposed rulemaking for section 51.309(d)(4)(viii), we explained that the provision ‘is intended to clarify that if EPA determines that the SO₂ emission reductions milestones and backstop trading program submitted in the section 51.309 SIP makes greater reasonable progress than BART for SO₂, this will not constitute a determination that BART for PM or NO_x is satisfied for any sources which would otherwise be subject to BART for those pollutants’ (emphasis added). 70 FR 44169 (Aug. 1, 2005). EPA does not interpret this rule to mean that there are different BART requirements for section 308 and 309 regional haze SIPs. EPA’s rulemaking made no finding that BART determinations conducted for a state submitting a SIP under section 51.309 should be conducted any differently than a state submitting a FIP under only section 308. The use of the word ‘necessary’ in section 51.309(d)(4)(viii) was to explain that some states may have BART NO_x emission limitations, while others may not. As already explained elsewhere in proposal and our response to other comments, Wyoming did not conduct a proper evaluation of the five statutory factors, as required by 40 CFR 51.308(e)(1)(ii)(A) and section 169A(g) of the CAA.

EPA also disagrees with the commenter’s assertion that a BART submission is discretionary. 40 CFR 51.309(d)(4)(viii) is clear in that the implementation plan ‘must’ contain BART requirements. The proposed rulemaking explained that the provision that provides that ‘[a]ny such BART provisions may be submitted pursuant to either Section 51.308(e)(1) or 51.308(e)(2),’ was included to ‘allow States the flexibility to address these BART provisions either on a source-by-source basis under Section 51.308(e)(1), or through an alternative strategy under Section 51.308(e)(2).’ 70 FR 44169 (Aug. 1, 2005).

Moreover, EPA’s proposal made clear that ‘[i]n limited circumstances, it may be possible for a State to demonstrate that an alternative program which controls only emissions from SO₂ could achieve greater visibility improvement than application of source-specific BART controls on emissions of SO₂, NO_x and/or PM. We nevertheless believe that such

D. Compliance With 40 CFR 51.308

Comment: Two commenters noted that EPA’s FIP proposal is unnecessary because EPA already found Utah is making the required “reasonable progress.” The goal of the RH program is to make “reasonable progress” towards the statute’s national visibility goal. Accordingly, EPA promulgated regulations “to assure . . . reasonable progress toward meeting” the national visibility goal, section 7491(b)(2), and mandated that EPA’s regulations contain “such emission limits, schedules of compliance and other measures as may be necessary” to assure such progress towards meeting that goal, “including” a requirement that states make BART determinations. *Id.* As EPA has stated, “BART is one component of long term strategies to make reasonable progress.” Regional Haze Regulations and Guidelines, 70 FR 39137.

Because BART’s purpose is to make reasonable progress, EPA adopted regulations exempting states from making BART determinations if they can show that other measures for large stationary sources will achieve greater reasonable progress. 40 CFR 51.308(e)(2) (2012). EPA defended those regulations in court by arguing that BART is one of a number of “emission limits, schedules of compliance and other measures” that “must” be included in a SIP “as may be necessary to make reasonable progress toward national visibility goals.” *Ctr. for Energy and Econ. Dev. v. EPA*, 398 F.3d 653, 659–60 (D.C. Cir. 2005) (confirming BART is but one measure for achieving “reasonable progress”); *Cent. Arizona Water Conservation Dist. v. EPA*, 990 F.2d 1531, 1534 (9th Cir. 1993) (same). If an alternative can better achieve those

a showing will be quite difficult to make in most geographic areas, given that controls on SO₂ emissions alone in most cases will result in increased formation of ammonium nitrate particles.’ 70 FR 44169 (Aug. 1, 2005). Wyoming’s RH SIP does not include a demonstration that the backstop SO₂ trading program under Section 51.309 achieves greater visibility improvement than application of source-specific PM BART controls. Therefore, Wyoming’s Section 51.309 SIP does not provide the adequate level of visibility improvement to meet the BART requirements.

With respect to the relationship of BART and requirements for reasonable progress under 40 CFR 51.308, EPA interprets the reasonable progress requirements to apply to BART sources. As explained in our guidance, due to the similarity of the BART and reasonable progress factors, states may reasonably rely on their BART determinations to show reasonable progress for those sources for the first planning period. However, BART is an independent requirement of the statute and the RHR. We have disapproved certain BART determinations by Wyoming not due to a failure to make reasonable progress, but due to a failure to consider the BART factors appropriately.” 79 FR 5032, 5098, 5099 (Jan. 30, 2014).

goals. EPA has stated that BART would not be “necessary to make reasonable progress.” *Id.* The court agreed with EPA’s analysis, although it overturned EPA on other grounds. *Id.* As the court said, “the focus of the Clean Air Act was to achieve ‘actual progress and improvement in visibility.’ 42 U.S.C. 7492(b), not to anoint BART the mandatory vehicle of choice.” *Id.* at 660.

As EPA recognizes, in some circumstances no BART controls may be necessary to make reasonable progress. It follows that in other circumstances, depending on a state’s reasonable-progress goals and expected non-BART emission reductions, BART controls of varying stringency may be necessary. Consistent with this goal, EPA has approved Utah’s “reasonable progress” determination for its RH SIP in its entirety. See “Approval, Disapproval and Promulgation of State Implementation Plans; State of Utah; Regional Haze Rule Requirements for Mandatory Class I Areas Under 40 CFR 51.309,” published at 77 FR 74355, 74367–68 (Dec. 14, 2012). EPA found that “the State met all reasonable progress requirements for the Class I areas,” including by implication any required NO_x BART limits. In fact, EPA stated that Utah’s 2008 RH SIP, including BART controls identified in that 2008 RH SIP, would result in “a significant decrease in stationary source NO_x and SO₂ emissions.” *Id.* EPA further found that the NO_x BART controls adopted by Utah for the Hunter and Huntington EGUs at issue would decrease NO_x emissions by “6,200 tons [annually] between 2002 and 2018.” *Id.* Therefore, EPA acknowledged that Utah’s NO_x BART limits and controls are all that are required to achieve “reasonable progress,” and no further NO_x BART requirements should be imposed by EPA through its FIP proposal.

Thus, EPA cannot validly judge a state’s BART determination outside of its reasonable progress context. *Owasso Indep. Sch. Dist. No. I-011 v. Falvo*, 534 U.S. 426, 434 (2002) (“the words of a statute must be read in their context and with a view to their place in the overall statutory scheme.”).

Response: EPA disagrees with these comments. The commenters appear to be asserting that, since EPA approved Utah’s 2011 SIP submission as meeting the reasonable progress requirements of 40 CFR 51.309 with regard to SO₂, no further controls are necessary to meet the RHR’s requirements for NO_x and PM. However, this assertion ignores our statements in the BART Alternatives rulemaking that an EPA determination that a backstop trading program satisfies

a state’s reasonable progress obligations for SO₂ under 40 CFR 51.309 does not satisfy that state’s obligation to address NO_x and PM requirements under 40 CFR 51.308(e)(1) or (2). In this rulemaking, EPA proposed amendments to the stationary source NO_x and PM provisions within § 51.309 precisely in order to “clarify that if EPA determines that the SO₂ emission reductions milestones and backstop trading program in the § 51.309 SIPs makes greater reasonable progress than BART for SO₂, this will *not* constitute a determination that BART for PM or NO_x is satisfied for any sources which would otherwise be subject to BART for those pollutants.”¹⁰⁴ The final rulemaking reinforced that a reasonable progress determination for SO₂ under § 51.309’s backstop trading program does not satisfy the emission reductions requirements for non-SO₂ pollutants.¹⁰⁵

We also took this position in another recent regional haze action, in which we found that the state’s approved SO₂ alternative under § 51.309 did “not provide the adequate level of visibility improvement to meet the [non-SO₂] BART requirements.”¹⁰⁶ We then reiterated that “BART is an independent requirement of the statute and the RHR.”¹⁰⁷ Our statements in both the national and regional contexts make it clear that a reasonable progress determination for an SO₂ backstop trading program under § 51.309 does not relieve a state of its obligation to satisfy NO_x and PM BART. EPA thus *can* judge a state’s BART determination outside the reasonable progress context, as they are independent requirements.

The commenters’ claim that EPA’s approval of Utah’s § 51.309 program in our December 2012 final action means that the State met its reasonable progress requirements “in its entirety” is thus clearly incorrect. In that action we determined that the State met the requirements of § 51.309 and therefore satisfied its reasonable progress obligation *with regard to the particular pollutants covered in the State’s alternative, i.e., SO₂*. This determination has no bearing on the State’s independent NO_x and PM obligations. To comply with the RHR, the state must still address any BART obligations for pollutants not included in the BART alternative analysis and therefore not covered by the “better than BART” determination.

¹⁰⁴ 70 FR 44154, 44169 (Aug. 1, 2005) (emphasis added).

¹⁰⁵ 71 FR 60612, 60626 (Oct. 13, 2006).

¹⁰⁶ 79 FR 5032, 5099 (Jan. 30, 2014) (final partial approval/partial disapproval of Wyoming regional haze SIP submission).

¹⁰⁷ *Id.*

EPA similarly disagrees that it acknowledged that the NO_x controls in Utah’s 2011 SIP submission are all that are required to achieve reasonable progress and that EPA should therefore not require further NO_x BART requirements. As explained earlier, EPA’s determination that Utah’s 2011 submission satisfied reasonable progress requirements does not constitute implicit evaluation and action on Utah’s NO_x and PM SIP submittal as meeting the BART requirements. Furthermore, the commenter overlooks EPA’s explicit disapproval of Utah’s NO_x and PM BART determinations in our December 2012 partial approval/disapproval.¹⁰⁸ EPA’s disapproval of Utah’s NO_x and PM control determinations necessarily precludes finding that these same controls are all that are required to satisfy the RHR’s requirements. EPA is thus required to promulgate a NO_x BART FIP, which we are now doing. Commenters also take EPA’s statements regarding the quantity of anticipated NO_x reductions from Utah’s rejected BART determination out of context. These statements were offered as reasons why Utah satisfied the RHR’s requirement to address impacts on Class I areas in other states by achieving previously agreed upon emission reductions, which is a separate consideration from whether the State has satisfied its independent NO_x and PM BART obligations.

EPA also disagrees that the statements in the cited cases have any bearing on this action. In *Center for Energy and Economic Development v. EPA (CEED)*,¹⁰⁹ the issue was whether EPA’s BART alternative provisions in § 51.309 were consistent with CAA section 169A(b)(2) given that they used a methodology for establishing the BART benchmark that the D.C. Circuit had previously vacated in *American Corn Growers Ass’n v. EPA*.¹¹⁰ As part of its challenge to EPA’s BART alternative provisions, CEED argued that section 169A(b)(2) requires all states’ SIPs to include BART, meaning EPA could not allow BART alternatives in place of source-specific BART. EPA argued that section 169A(b)(2) allows either BART or an alternative to BART submitted pursuant to § 51.309 if that alternative would achieve greater reasonable progress than BART, *i.e., if the alternative is “better than BART.”* The statements the commenter cites express EPA’s view on the narrow issue of whether and when we may allow states to substitute an SO₂ trading program for

¹⁰⁸ 77 FR 74355, 74357 (Dec. 14, 2012).

¹⁰⁹ 398 F.3d 653 (D.C. Cir. 2005).

¹¹⁰ 291 F.3d 1 (D.C. Cir. 2002).

source-specific BART under § 51.309. Because these statements address only the relationship between BART and BART alternatives for SO₂ under § 51.309; they have no bearing on whether we believe a state's submission of an SO₂ trading program satisfies its independent obligation to address NO_x and PM, as these obligations were not at issue in this case.

In our December 14, 2012 action we approved Utah's BART Alternative for SO₂ under 40 CFR 51.309, finding that it achieved greater reasonable progress than SO₂ BART. As explained earlier, this determination has no bearing on Utah's outstanding NO_x and PM BART obligations. We, therefore, disagree that today's action to address these obligations is unnecessary.

Comment: Several commenters asserted that Utah's BART Alternative does not achieve greater reasonable progress based on the "clear weight-of-evidence." Utah's Regional Haze SIP also must be rejected under 40 CFR 51.308(e)(2)(i)(E) because it does not achieve "greater reasonable progress" based on the "clear weight-of-evidence."¹¹¹

At the outset, Utah's proposed reliance on the "clear weight-of-evidence" test is improper. In promulgating regulations allowing for the test, 40 CFR 51.308(e)(2)(i)(E), offered the following example of when the test might be appropriate: "(1) The alternative program achieves emissions reductions that are within the range believed achievable from source-by-source BART at affected sources, (2) the program imposes a firm cap on emissions that represents meaningful reductions from current levels and, in contrast to BART, would prevent emissions growth from new sources, and (3) the State is unable to perform a sufficiently robust assessment of the programs using the two pronged visibility test due to technical or data limitations."¹¹² None of those conditions are met here. Most importantly, Utah's BART Alternative does not drive any meaningful reductions from "current levels" and does not prevent emissions growth from new sources, and Utah is not hindered by any technical or data limitations preventing a sufficiently robust visibility assessment. EPA further noted that "a weight-of-evidence comparison may be warranted" "when there is confidence that the difference in visibility impacts between BART and the alternative scenarios are expected to

be large enough."¹¹³ Here, as EPA correctly observed, even Utah's flawed modeling demonstrated the superiority of BART using the most relevant visibility metric and only minimal benefits of the BART Alternative compared with BART using other metrics.

Several commenters also raised concerns regarding emission shifting from the power plants covered by the SIP to existing sources that are not included in this SIP. They suggested that due to the nature of the electrical generation market, with the adjustments to the overall system to add capacity elsewhere to accommodate the Carbon power plant shutdown (and perhaps also to accommodate the emission limit reductions at the Hunter and Huntington power plants), those shifts in capacity could result in increases in emissions at power plants outside the BART Alternative. The commenters further suggested that if those emission increases had been considered in the State's weight-of-evidence analysis, the BART Alternative may not provide greater reasonable progress than BART if the emission reductions assessment under the Alternative are not permanent and were to shift to other power plants. As an example, one of the commenters provided an analysis for a Utah power plant (not covered by the BART Alternative) that based on its proximity to the nine Class I areas analyzed under the BART Alternative, if emission increases were to occur at that plant the increases could impact visibility impairment at the Class I areas. Other commenters expressed concern that the lost capacity from the BART Alternative sources could shift to new sources, and explained that the emissions from new sources are not evaluated in the State's weight-of-evidence analysis. One commenter suggested that this Alternative appears to be more like a "trading" program and that other regulations apply. One commenter expressed concern that a non-BART source is included in the BART Alternative, and further, that not all the sources in the State that are part of this source category are included.

Response: We agree in part and disagree in part with these comments. First, as explained elsewhere, we agree with the commenter that the State's analysis for the BART Alternative does not show that the Alternative clearly achieves greater visibility benefits than BART. Second, the four examples cited by the commenter from our RHR preamble were *examples*, rather than an exclusive list of circumstances under

which a state may use a weight-of-evidence analysis. Therefore, the State was not required to fall into one of these categories in order to select the weight-of-evidence approach to support its BART Alternative. Third, we disagree that emission reductions must occur from current levels, because, consistent with the RHR, the baseline date for regional haze SIPs is 2002.¹¹⁴

Next we respond to the commenters' concerns about potential shifting of production and emissions from the sources in the BART Alternative to sources outside the BART Alternative. We acknowledge that the State's BART Alternative has the following characteristics: (1) It includes all the BART sources in the State; (2) it accounts for emission reductions from a non-BART source; and (3) it includes some, but not all, sources in the source category within the State. The RHR provides that BART alternative programs may include non-BART sources.¹¹⁵ We disagree with commenters that suggested the RHR trading requirements apply to the Utah BART Alternative.¹¹⁶ The RHR trading provisions apply to SIPs that establish a cap on total emissions from sources that are subject to the BART program, and further require the owners and operators of the sources to hold allowances to purchase, sell, and transfer allowances. Utah's SIP contains rate-based emission limits on the sources that are subject to the BART Alternative and therefore does not include a cap on emissions or trading provisions. Therefore, the Utah SIP does not contain the elements of a trading program as described in the RHR, which include provisions to prevent significant emission shifting.¹¹⁷

Although the State's SIP explained that the Carbon power plant had already closed and electricity generated from the Carbon power plant has been replaced (and the associated costs already have been absorbed by Utah rate payers and those in other states served by PacifiCorp),¹¹⁸ the SIP submittal neither identified what electrical generating facilities increased capacity

¹¹⁴ See Memorandum from Lydia Wegman and Peter Tsirigotis, 2002 Base Year Emission Inventory SIP Planning: 8-hr Ozone, PM_{2.5}, and Regional Haze Programs (November 18, 2002).

¹¹⁵ The preamble to the RHR provides for inclusion of BART and non-BART sources in a BART alternative. 64 FR 35714, 35743 (July 1, 1999).

¹¹⁶ 40 CFR 51.308(e)(2)(i)(v) (containing requirements for a state to demonstrate that a trading program prevent any significant, potential shifting within the state of production and emissions from the sources in the program to sources outside the program).

¹¹⁷ *Id.*

¹¹⁸ Utah Staff Review Report at 27.

¹¹¹ 40 CFR 51.308(e)(2)(i)(E).

¹¹² 71 FR 60612, 60621 (Oct. 13, 2006).

¹¹³ *Id.* at 60622.

to accommodate the Carbon shut down, nor did it provide an analysis of whether the capacity replacement resulted in increases in visibility impairing pollutants. Furthermore, in addition to seeking and receiving authorization to recover costs associated with retirement of the Carbon plant, the Company also received authorization from state utility commissions to recover additional costs, including “installation of equipment necessary to ensure voltage stability, along with various communications upgrades and protection and control equipment.”¹¹⁹ It is unclear whether the activities associated with these additional costs resulted in capacity and emissions shifting and increased visibility impairment at the affected Class I areas. Therefore, while the record before us indicates that capacity has shifted, it is unclear how the shift was accommodated, and whether there are any emission increases and associated visibility impairment.¹²⁰

It is therefore unclear whether the shift in capacity as a result of the Carbon plant retirement results in increased emissions and visibility impairment at the affected Class I areas. Because the record lacks information on these questions, we agree with the commenters that there is additional uncertainty as to whether the BART Alternative is better than BART.

E. Overarching Comments on BART Alternative Demonstration

Comment: The State of Utah commented that EPA should approve the option that Utah developed in close consultation with EPA and not the option that Utah was not even aware was being prepared or under

consideration until it was signed by the Regional Administrator. Utah worked closely and in good faith with the EPA and the FLMs to evaluate and implement the appropriate controls for improving visibility. Up to the point of the current proposal, the EPA has indicated to Utah that the alternative to BART approach and analysis were acceptable. During the RH SIP development process, Utah and EPA worked as regulatory partners—Utah working closely and extensively with EPA’s staff to ensure that Utah’s BART Alternative was approvable. EPA’s concurrence with Utah’s RH SIP proposal is also supported by EPA’s comments submitted during the state rulemaking public comment period on the current revision of the Utah’s RH SIP. EPA did not point to any substantive flaws in Utah’s RH SIP, but only requested minor clarifications and revisions in its 3-page comment letter.

Response: While we agree that EPA worked in close consultation with Utah on the BART Alternative within the limitations of what the State and PacifiCorp were willing to offer in the plan, EPA is not required to approve the option developed by Utah. As stated elsewhere in this document, EPA’s comment letter on the State’s proposed SIP explicitly explained the following: “[p]lease note that we will only come to a final conclusion regarding the regional haze program for Utah when we take action on the program through our own public notice-and-comment rulemaking.”¹²¹ Our May 1, 2015 letter further explained to the State that, “[i]n addition, we wish to inform you that we are working towards meeting our legal obligations that have resulted from our January 2013 partial disapproval action for Utah’s May 2011 regional haze SIP.”¹²² EPA’s assistance to states and our comment letters are intended to be helpful to the improvement of any SIP revision that is under development, but they do not constitute agency action on that SIP revision or constitute any assurance of positive action on that revision upon submission and review.

Additionally, the State’s efforts to involve the FLMs did not adequately meet the requirements for FLM consultation in developing plan revisions. The State could have satisfied the consultation requirements by providing more time for FLM review so that the FLMs would have received the

full number of 60 days for their review. However, in developing the co-proposals, consulting with the FLMs, and by taking this final action, EPA has considered the FLMs’ concerns.

Comment: Several commenters asserted that both Utah and EPA imply that nitrate formation in non-winter months is not significant,¹²³ or that NO_x reductions will not meaningfully reduce nitrates in non-winter months.¹²⁴ Both are untrue. Based on IMPROVE data, light extinction attributable to ammonium nitrate in non-winter months is roughly 20% of that attributable to ammonium sulfate. Despite the preferential formation of ammonium sulfate year round and higher ammonium nitrate formation in winter months, it is clear that significant levels of ammonium nitrate also form in non-winter months, and that these are likely to be lowered by reductions in NO_x emissions. Furthermore, while EPA notes that wintertime conditions favor nitrate formation (versus non-winter),¹²⁵ this is accounted for in modeling and cannot be used to discount those results.

Response: We partially agree with the comment. While EPA did not suggest that nitrate in non-winter months is not significant, IMPROVE monitoring data do show that nitrate light extinction is highest in winter and substantially smaller in the other seasons. For example, in 2014, the most recent year of IMPROVE data available at the Canyonlands monitor, nitrate contributed an average of 31% of total light extinction in December to February compared to an average of 5% of total light extinction from March to November. In 2013, nitrate contributed an average of 45% of total light extinction in December to February compared to an average of 7.5% of total light extinction from March to November. By contrast, sulfate light extinction is relatively constant across the four seasons.¹²⁶

Nonetheless, overall nitrate extinction at the affected areas is significant, particularly on the 20% worst days. For example, at Canyonlands on the 20% worst days, nitrate contributed 33% and 17% of total extinction in 2013 and

¹¹⁹ *The Application of Rocky Mountain Power for Approval of a General Rate Increase*, No. 20000-446-ER-14, Wyoming Public Service Commission, (Jan. 23, 2015) (Findings of Fact, Conclusions of Law, Decision and Order Nunc Pro Tunc) (Available in docket at <https://www.regulations.gov/#!documentDetail;D=EPA-R08-OAR-2015-0463-0167>). An order from the Idaho Public Commission also discussed the impacts from Carbon’s retirement on the transmission system and noted that “[t]he Company states that retiring Carbon may pose a complication with potential transmission system impacts.” See *The Application of PacifiCorp DBD DBA Rocky Mountain Power*, Case No. PAC-E-12-08, Order No. 32701, at 1, Idaho Public Utilities Commission (Dec. 27, 2012) (Available in the docket at <https://www.regulations.gov/#!documentDetail;D=EPA-R08-OAR-2015-0463-0167>).

¹²⁰ Utah’s BART Alternative has the characteristics of an “open market” program where some, but not all, sources in a source category are covered by the SIP measure. EPA Guidance, “Improving Air Quality with Economic Incentive Programs,” at 48, 96, 112–118, EPA-452/R-01-001 (Jan. 2001), available at <https://www3.epa.gov/ttn/caaa/t1/memoranda/eipfin.pdf>; 77 FR 11928 (Feb. 28, 2012); 77 FR 46952 (Aug. 7, 2012).

¹²¹ Letter from Carl Daly to Bryce Bird, Re. EPA Region 8 Comments on Utah’s February 2015 Draft Regional Haze SIP Revision, at 1 (May 1, 2015). (Available in the docket at <https://www.regulations.gov/#!documentDetail;D=EPA-R08-OAR-2015-0463-0160>).

¹²² *Id.*

¹²³ Utah Staff Review Report at 17, Exhibit 15. Winter months in this context are December, January, and February.

¹²⁴ 81 FR 2004, 2023 (EPA says that based on a computational model, “We propose to find that visibility benefits associated with NO_x reductions are much more likely to occur in the winter months because this is when aerosol thermodynamics favors nitrate formation”).

¹²⁵ *Id.*

¹²⁶ See EPA spreadsheet entitled, Canyonlands IMPROVE Monitoring Data for 2013 and 2014 (Available in the in the docket).

2014, respectively. Given the focus of the reasonable progress provisions of the RHR on the 20% worst days, we consider the monitoring data for these days to be more informative than seasonal trends in monitoring data.

We also agree with the commenter that the modeling performed by Utah and EPA accounts for the fact that wintertime conditions favor nitrate formation (versus non-winter). In particular, the CALPUFF modeling performed by Utah and EPA both show that, while there will be some benefits from NO_x controls outside of the winter season, the largest benefits in nitrate reductions occur in winter months.¹²⁷ We have taken the strength of the modeling results for winter months into consideration; however, contrary to suggestions that visibility improvements during seasons of peak Class I area visitation should carry more weight, we have evaluated the visibility impacts throughout the entire year, regardless of the season and have given the most weight to those times when the sources in question have the largest impacts. In particular, as explained elsewhere in this document and our RTC document, we have given greater weight to the 98th percentile CALPUFF metric, which captures these highest impact days.

F. Cost of Controls

Comment: Several commenters submitted comments regarding the costs to install SCR at the Hunter and Huntington BART EGUs. PacifiCorp submitted a technical report developed by its consultant, Sargent & Lundy, which criticized numerous aspects of EPA's cost analysis developed by our contractor, Andover Technology Partners (ATP), including catalyst volume, SCR design, project and process contingency costs, and others. The conservation organizations' consultant reviewed PacifiCorp's cost analyses from 2012 and 2014 and provided comments about the validity of PacifiCorp's analyses. The National Park Service supported EPA's cost estimates in the proposed rule and indicated the estimates show that both the combined cost of LNB and SOFA plus SCR (SCR + LNB/SOFA) and the incremental cost of adding SCR to LNB/SOFA are cost-effective and represent BART. The conservation organizations also supported EPA's cost estimates in the proposed rule.

Response: EPA has provided a revised cost analysis to support our final

rulemaking. We again used Andover Technology Partners (ATP) for conducting the analysis. We have carefully reviewed the analysis and determined that it appropriately estimates the costs to install SCR at Hunter and Huntington. Of particular note is that in our revised cost analysis, EPA has accepted both the catalyst volume and SCR design suggested by Sargent & Lundy. However, we continue to reject process and project contingency costs and other costs that are double counted, not permissible under the CCM, or are otherwise not justified. The final Andover report and spreadsheet provide further details regarding how each of these costs was addressed in the revised analysis supporting this rulemaking.¹²⁸ Also, in our RTC document, we have addressed the specific comments concerning the capital costs that Sargent & Lundy alleges that Andover incorrectly excluded from its analysis, as well as all other comments regarding our cost estimates.

We concur with the National Park Service's and conservation organizations' supportive comments regarding the cost effectiveness of SNCR and SCR. In addition, the revised cost effectiveness estimates that we prepared to support this final rule, when considered along with the other five BART factors, continue to support selection of SCR + LNB/SOFA as BART.

The conservation organizations' comments pertain to the costs that PacifiCorp submitted to the Utah Department of Air Quality, and which Utah included in its SIP submittal to EPA. However, EPA developed separate costs to support our FIP, and has updated those costs in support of our final action. Our RTC document contains additional detail concerning our consideration of these comments.

G. Comparison With Other Regional Haze Actions

Comment: Two commenters agreed with the comparisons we provided in our proposed rule to other BART determinations that EPA used to support our proposed FIP. One commenter disagreed with the comparisons. These comparisons included Cholla,¹²⁹ Hayden,¹³⁰ and

Laramie River Station.¹³¹ The commenter who disagreed asserted that different methodologies were involved in all three cases and that EPA failed to provide comparisons to other actions that did not support the FIP. The commenter provided additional examples from EPA actions in Florida, Montana, and Nebraska that they asserted do not support EPA's Utah FIP decision.

Response: We continue to find that the Cholla, Hayden and Laramie River Station comparisons are among the best to use considering the specifics of our Utah action. The commenter who disagreed with these comparisons did not show that it would make a significant difference to use precisely the same methodology in each of the determinations that EPA chose to rely on. Furthermore, we disagree that the methodology involved in the BART analyses necessarily must be precisely the same for each BART determination in order to use the determinations for comparison purposes. For example, a state may choose to use a slightly different methodology to analyze the BART factors and select BART, which is acceptable so long as the methodology is reasonable and consistent with the statute, RHR, and BART Guidelines. For details, please see the RTC document.

We also disagree that the cited BART determinations in Montana, Florida, and Nebraska are useful comparisons or show that our BART determination here is unreasonable. First, with respect to the Florida action, the cited NO_x BART determination at FPL's Manatee Plant involved two 800 MW oil and natural-gas fired steam turbines. 77 FR 73369, 73377 (Dec. 10, 2012) (proposal). As the two units were equipped with FGR, overfire air systems, staged combustion, LNB, and reburn, SCR was the only available additional control option identified. The total annualized cost of SCR at the two units would be \$31 million, from which the state computed a dollar-per-deciview cost of \$66 million/dv. *Id.* at 73377. Using these figures, the total (*i.e.* source wide) visibility improvements at the most impacted Class I area, Chassahowitzka NWA, would be 0.47 dv, which is considerably below the source-wide visibility improvement for SCR + LNB/SOFA at Hunter and Huntington of 2.948 dv and 3.848 dv, respectively.¹³²

¹²⁷ Both Utah and EPA CALPUFF modeling results can be viewed in or obtained from the EPA Region 8 offices by contacting the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

¹²⁸ Andover Technology Partners, *Cost of NO_x BART Controls on Utah EGUs to: EC/R Inc.* (May 13, 2016). Andover Technology Partners is a subcontractor to EC/R Incorporated.

¹²⁹ 77 FR 42834 (July 20, 2012) (proposal); 77 FR 72512, 72514–15 (Dec. 5, 2012) (final).

¹³⁰ 77 FR 18069 (Mar. 26, 2012) (proposal); 77 FR 76871 (Dec. 31, 2012) (final).

¹³¹ 79 FR 5032, 5099 (Jan. 30, 2014) (final partial approval/partial disapproval of Wyoming regional haze SIP submission).

¹³² See also our response to comments on existing controls and the baseline, in which we look at the cost and visibility benefits at Hunter and Huntington of SCR apart from the LNB/SOFA, to

Continued

In addition, the Manatee Plant impacted only one other Class I area, Everglades NP, at nearly twice the distance of Chassahowitzka NWA. In comparison, Hunter and Huntington significantly impact nine Class I areas. Furthermore, the Manatee Plant received a permit to increase natural gas utilization from 5,670 MMBtu/hr to 8,650 MMBtu/hr, which would displace the use of oil and provide additional NO_x reductions. All of these must be considered when examining the state's conclusion that SCR would not be cost-effective for these units, which was primarily based on the dollar-per-deciview cost of \$66 million/dv and not on the raw cost-effectiveness number of \$3,776/ton. While we are not basing our BART determinations on the dollar-per-deciview metric, for purposes of comparison to Manatee, the dollar-per-deciview cost for Hunter and Huntington would be considerably less than at Manatee, about \$23.7 million/dv and \$15.8 million/dv, respectively, at the most impacted Class I area, and as mentioned earlier Hunter and Huntington impact many more Class I areas than Manatee.

With respect to the Montana action, EPA stated for PPL Colstrip Units 1 and 2, "we estimated the incremental cost effectiveness of SCR + SOFA (over SNCR + SOFA) to [be] \$5,770/ton and \$5,887/ton, respectively. Given these costs, we continue to find that SCR + SOFA is not justified by the visibility improvement that would be provided." 77 FR 57864, 57889 (Sept. 18, 2012) (emphasis added). The commenter omits the emphasized language. The visibility improvements for the various NO_x control options for Colstrip Units 1 and 2 can be seen in our proposal action and in general are much lower than those for Hunter and Huntington. See 77 FR 23988, 24026–27, 24034–35 (Apr. 20, 2012). In particular, at Colstrip Unit 1, the visibility improvements from SCR + SOFA at the five impacted Class I areas (which is less than the nine impacted by Hunter and Huntington) ranged from 0.081 to 0.404 dv. At Colstrip Unit 2, the visibility improvements from SCR + SOFA at the same class I areas ranged from 0.091 dv to 0.423 dv. These values are all much less than for the Hunter and Huntington BART units. In any case, our NO_x BART determinations for Colstrip Units 1 and 2 were vacated by the Ninth Circuit Court of Appeals. *Nat'l Parks Conserv.*

show that even if we agreed with this commenter that the baseline should reflect the installation of LNB/SOFA—which we do not—the selection of SCR as BART would still be reasonable. The numbers used there also compare favorably with Manatee.

Ass'n v. U.S. EPA, 788 F.3d 1134 (9th Cir. 2014).¹³³ Finally, commenter's citation to the Nebraska proposal is fully addressed by our response to a similar comment on our Wyoming regional haze action. 79 FR 5032, 5178 (Jan. 30, 2014). Please refer to our RTC document for additional discussion of our comparisons to other BART determinations.

H. CALPUFF Modeling

Comment: We received many comments related to both EPA's modeling for the FIP and Utah's modeling for the BART Alternative. In particular, PacifiCorp and its consultant asserted that EPA failed to account for the margin of error in the CALPUFF model and other material limitations of CALPUFF. PacifiCorp also asserted that we should have used CALPUFF version 6.42 in our FIP analysis instead of version 5.8.4. We partially respond to these comments here. Our full responses are contained in our RTC document.

Response: We do not agree with the commenter's criticism of the use of CALPUFF. In promulgating the 2005 BART Guidelines, we responded to comments concerning the limitations and appropriateness of using CALPUFF. In 2005 we explained that CALPUFF is the only EPA-approved model for use in estimating single source pollutant concentrations resulting from the long range transport of primary pollutants. In addition, it can also be used for other purposes such as visibility assessments to account for the chemical transformations of SO₂ and NO_x. As explained earlier, simulating the effect of precursor pollutant emissions on PM_{2.5} concentrations requires air quality modeling that not only addresses transport and diffusion, but also chemical transformations. CALPUFF incorporates algorithms for predicting both. At a minimum, CALPUFF can be used to estimate the relative impacts of BART-eligible sources. *We are confident that CALPUFF distinguishes, comparatively, the relative contributions from sources such that the differences in source configurations, sizes, emission rates, and visibility impacts are well-reflected in the model results.*¹³⁴

¹³³ The same commenter notes that the Wyoming and Arizona BART determinations we used for comparison purposes are currently under litigation; however the commenter fails to note that the Montana BART determination they propose for comparison was actually litigated and vacated. With respect to the pending litigation over the Wyoming and Arizona BART determinations, there are other BART determinations such as Colorado's Hayden Station that are comparable, support our selection of SCR + LNB/SOFA, and are not under litigation.

¹³⁴ 70 FR 39122 (Jul. 6, 2005) (emphasis added).

EPA also recognized the uncertainty in the CALPUFF modeling results when EPA made the decision (in the final BART Guidelines) to recommend that states use the 98th percentile visibility impairment rather than the highest daily impact value. We made the decision to consider the 98th percentile primarily because the chemistry modules in the CALPUFF model are simplified and likely to provide conservative (higher) results for peak impacts. Since CALPUFF's simplified chemistry could lead to model over predictions, EPA recommended the use of the 98th percentile to avoid giving undue weight to the extreme tail of the distribution.¹³⁵ Therefore, in recognizing some of the limitations of the CALPUFF model, we determined that use of the maximum modeled impact may be overly conservative and recommended the use of the 98th percentile value. While recognizing the limitations of the CALPUFF model in the BART Guidelines preamble, EPA concluded that, for the specific purposes of the RHR's BART provisions, CALPUFF is sufficiently reliable to inform the decision making process.¹³⁶

It is further worth noting that the CALPUFF model can both predict higher and lower visibility impacts compared to a photochemical grid model. For example, the 2012 ENVIRON report on *Comparison of Single-Source Air Quality Assessment Techniques for Ozone, PM_{2.5}, other criteria pollutants and AQRVs* found that CALPUFF's predictions of the highest 24-hr nitrate and sulfate concentrations were lower than those predicted by the CAMx photochemical grid model in some areas within the modeling domain.¹³⁷ Thus, while there is some uncertainty in the absolute visibility impacts and benefits due to the model and some of the simplifications and assumptions used in the BART Guidelines modeling approach, the relative level of impact has been a reliable assessment of the degree of visibility impacts and benefit from controls. Any uncertainties in meteorological conditions that govern the transport and diffusion of pollutants are less important in comparing impacts between two control scenarios, since the

¹³⁵ "Most important, the simplified chemistry in the model tends to magnify the actual visibility effects of that source. Because of these features and the uncertainties associated with the model, we believe it is appropriate to use the 98th percentile—a more robust approach that does not give undue weight to the extreme tail of the distribution." 70 FR 39104, 39121 (Jul. 6, 2005).

¹³⁶ 70 FR 39123 (Jul. 6, 2005).

¹³⁷ *Comparison of Single-Source Air Quality Assessment Techniques for Ozone, PM_{2.5}, other Criteria Pollutants and AQRVs*, ENVIRON, September 2012.

same effects will be included in both the base and the control scenario model simulations.

We also do not agree with the commenter's calculation of a "margin of error" for CALPUFF. The notion of a calculated "margin of error" is not part of any modeling guidance and has no legal or regulatory basis or applicability here. In addition, the commenter's suggestion that a 2012 report titled "Documentation of the Evaluation of CALPUFF and Other Long Range Transport Models Using Tracer Field Experiment Data", EPA-454/R-12-003 (ENVIRON Report) establishes a standard "margin of error" for CALPUFF is unfounded. The ENVIRON Report illustrated how well various types of modeling systems are able to capture regional transport. It does not provide any information about the accuracy of any models for predicting secondary PM_{2.5} or visibility, nor does it indicate that the quantitative performance results provided are a presumptive globally applicable "margin of error." Rather, these results are simply a way to compare various modeling systems in terms of performance for skill in long range transport. Thus, we do not agree that the ENVIRON Report provides a presumptive margin of error that can be applied to the modeling results in Utah's SIP or EPA's FIP.

With regard to Utah's use of CALPUFF in its SIP revision specifically, we note that the State was not required to use CALPUFF for purposes of its BART Alternative Demonstration under 40 CFR 51.308(e)(2)(i). Utah or PacifiCorp could have used other EPA-approved models with more advanced chemistry and dispersion techniques to support the BART Alternative demonstration but chose not to do so.

With regard to our use of CALPUFF for purposes of the FIP modeling, as explained in more detail in our RTC document, the legal deadline for challenging EPA's recommendation to use CALPUFF in BART analyses has passed. Furthermore, although the EPA proposed revisions to 40 CFR part 51, appendix W, Guideline on Air Quality Models ("Guideline") in 2015, these proposed changes to the Guideline do not affect our recommendation in the 2005 BART Guidelines to use CALPUFF in the BART determination process.¹³⁸ Rather, as explained in the preamble to the proposed Guideline revisions, we consider it appropriate to continue using CALPUFF for BART determinations, given that the vast

majority of BART determinations have been made using CALPUFF.¹³⁹

In particular, for our FIP modeling, we used the current EPA-approved version of CALPUFF (Version 5.8.4, Level 130731). We disagree with the commenters that a new CALPUFF version should be used for the BART determinations. We relied on version 5.8 of CALPUFF because it is the version approved by EPA through a public notice-and-comment rulemaking, in accordance with the Guidelines (40 CFR part 51, appendix W, section 6.2.1.e). Later versions of CALPUFF are not approved by EPA for regulatory purposes, and we do not agree that the changes made to this most recent version of CALPUFF were simple model updates to address bugs. A full evaluation of a new model such as CALPUFF version 6.4 is needed before it should be used for regulatory purposes as errors that are not immediately apparent can be introduced along with new model features.

In response to comments, EPA performed additional modeling analysis to assess the combined benefit of SCR when applied to each of the two BART units at the Hunter facility. We did the same for the Huntington facility. These modeling results are shown in Tables 6 and 7 earlier in this document. Otherwise, we did not receive any comments that convinced us to alter our CALPUFF modeling analysis, and the comments we received do not justify a change in our BART determinations or our evaluation of the State's BART Alternative. We discuss these and other modeling comments in detail in our RTC document.

I. Consideration of Existing Controls

Comment: Several commenters asserted that EPA did not properly take into account the existing pollution control technology in use at the Hunter and Huntington BART units, as required by CAA section 169A(g)(2) and the BART Guidelines. Two of these commenters alleged that EPA was required to consider updated combustion controls, which were installed to comply with Utah's regional haze SIP. The commenters said EPA improperly used 2001–2003 emissions data to establish the baseline emissions for the Utah BART Units and that this is neither realistic nor provides the anticipated emissions as required by the BART Guidelines. The commenters asserted that had EPA relied on more recent emissions data, which reflect the NO_x reductions achieved by some of these newly installed controls, the cost-

effectiveness values for SCR would have been higher, while the visibility improvement associated with SCR would have been lower.

Commenters pointed to an 8th Circuit court decision on EPA's final action on the North Dakota regional haze SIP where the Court found that EPA had failed to properly consider the existing pollution control technology at the Coal Creek Station. Commenters also asserted that in other EPA regional haze actions, EPA had adjusted baseline emissions to account for recently installed controls, such as EPA's final actions on the Arizona and Colorado regional haze SIPs, and settlement agreement with EPA Region 8 for the Deseret Bonanza plant. This commenter argued that because EPA had adjusted baseline emissions for some Arizona and Colorado EGUs to account for controls recently installed to satisfy consent decrees obligations or CAA requirements unrelated to regional haze, EPA was required to do so for Utah's EGUs as well.

Two final commenters submitted supportive comments regarding the need for using a standard baseline period to provide for greater national consistency. One of these commenters noted examples where EPA has evaluated NO_x BART based on a baseline period from before the installation of the pollution controls, for the Navajo regional haze plan and the Wyoming regional haze plan.

Response: We disagree with comments that EPA failed to consider or unreasonably considered the existing pollution control technology at the Hunter and Huntington BART units. One of the statutory factors EPA is to consider for BART is "any existing pollution control technology in use at the source." 42 U.S.C. 7491(g)(2). The CAA and the BART Guidelines do not specify how states or EPA must "take into consideration" this factor. Nor did the Eighth Circuit Court of Appeals specify how existing controls must be taken into account; instead it only examined the meaning of the word "any," holding that EPA misinterpreted the term. *North Dakota v. U.S. EPA*, 730 F.3d 750, 762–64 (8th Cir. 2013). The Court did not examine the meaning of the phrase "take into consideration." See *id.* As the statute is silent on how to take into consideration existing controls, under *Chevron U.S.A. v. NRDC*, 467 U.S. 837, 843–44 (1984), this silence creates a gap for EPA to fill. As next summarized and detailed in our RTC document, we are reasonably considering existing controls in several ways.

¹³⁸ 80 FR 45340, 45350 (July 29, 2015).

¹³⁹ *Id.*

First, the BART Guidelines state that existing pollution control technology in use at the source affects the availability of control options and their impacts. 40 CFR part 51, appendix Y, at IV.A. The Guidelines go on to explain that “[f]or emission units subject to a BART review, there will often be control measures or devices already in place. For such emission units, it is important to include control options that involve improvements to existing controls and not to limit the control options only to those measures that involve a complete replacement of control devices.” 40 CFR part 51, appendix Y, at IV.D.1.6. We have followed this recommendation. We find that the existing combustion controls, LNB/SOFA, cannot be reasonably upgraded, and we are not considering a control option that involves their complete replacement. The post-combustion control options, SNCR and SCR, by their nature can operate independently of combustion controls and without changes to the combustion controls, another way in which we considered the existing controls when evaluating SNCR and SCR.

Consistent with the Guidelines’ statement that existing pollution control equipment in use at the source affects the impacts of the control options, we used the sources’ current NO_x emission rates when we evaluated the size, design, and reagent/catalyst cost of SNCR and SCR. For example, in the case of Hunter Unit 1, we did not use the baseline emission rate of 0.40 lb/MMBtu, but rather the current emission rate of 0.21 lb/MMBtu that appropriately reflects the installation of LNB/SOFA. Due to the lower NO_x emission rate, the size of the SNCR and SCR systems and the amount of reagent/catalyst necessary to operate them are lower than if we had simply assumed the baseline emission rate. This is a reasonable way in which to consider existing pollution control technology.

As discussed in our Wyoming action and in additional detail in our RTC document for this action, baseline emissions should be “a realistic depiction of anticipated annual emissions” before the installation of BART. 40 CFR part 51, appendix Y, at IV.D.4.d. Because the LNB/OFA were installed pursuant to Utah’s proposed BART determination, we used the period 2001–2003, prior to the installation of LNB/OFA at the Hunter and Huntington BART units, for baseline emissions, which in turn we used to evaluate the cost-effectiveness and visibility of control options. As a result, the existing LNB/OFA were not included in the baseline. According to

the commenter, this skewed EPA’s analysis.

We disagree. Because we have also considered the existing controls in our final BART determination by examining the cost-effectiveness and visibility benefit of SNCR and SCR relative to the existing LNB/SOFA as well as in tandem with LNB/SOFA, we have avoided any possibility that exclusion of the LNB/OFA from the baseline could result in an unreasonable BART selection. The cost-effectiveness values of SCR and SNCR relative to the existing LNB/SOFA are presented in the per-unit tables for Hunter and Huntington (Tables 2–5) under “Incremental cost-effectiveness.” In other words, the cost-effectiveness value for SCR alone (assuming the existing LNB/SOFA) is essentially the same as the incremental cost-effectiveness of SCR + LNB/SOFA as compared to LNB/SOFA that is presented in the tables. As can be seen, the incremental cost-effectiveness values of SCR + LNB/SOFA relative to LNB/SOFA are, for all four units, somewhat lower than the incremental cost-effectiveness of SCR relative to SNCR. As explained in the section giving the rationale for our final action, we find the incremental cost-effectiveness of SCR to be reasonable relative to SNCR; therefore it is also reasonable relative to the existing LNB/SOFA.

Another way to make the same point is to, for the sake of argument, accept (which we do not) commenter’s position that the baseline should reflect the LNB/SOFA. In that case, the values in the tables for the incremental cost-effectiveness of SCR + LNB/SOFA relative to LNB/SOFA can serve as a proxy for the average cost-effectiveness of SCR (assuming LNB/SOFA in the baseline). As shown by our comparisons, the incremental cost-effectiveness of SCR + LNB/SOFA is generally reasonable given the visibility benefits. This in turn shows that, even accepting for the sake of argument that LNB/SOFA should be reflected in the baseline, the average cost-effectiveness of SCR remains reasonable. Similar considerations apply to the incremental visibility benefits of SCR + LNB/SOFA relative to LNB/SOFA, which can be used as a proxy for the visibility benefits of SCR alone assuming that LNB/SOFA are reflected in the baseline. As shown by our comparisons, the incremental visibility benefits of SCR + LNB/SOFA relative to SNCR + LNB/SOFA are substantial and justify the costs of SCR. Since the incremental visibility benefits of SCR + LNB/SOFA relative to LNB/SOFA are necessarily larger than the incremental benefits relative to SNCR +

LNB/SOFA, the incremental visibility benefits of SCR + LNB/SOFA relative to LNB/SOFA will also justify the costs of SCR. This in turn shows that even if we accepted the commenter’s position—which we do not—the visibility benefits of SCR would justify its selection. For our detailed responses, please see our RTC document.

Finally, we acknowledge the supportive comments from two commenters on this issue and agree with many of the points that were made, for reasons explained elsewhere in this document and in our RTC document.

J. PM₁₀ BART

Comment: We received several minor comments on Utah’s PM₁₀ BART determinations. One commenter in particular asserted that Utah underestimated the control effectiveness of baghouses, which should be able to achieve a limit of 0.010 lb/MMBtu or even lower.

Response: EPA agrees that baghouses have very high PM control efficiency capabilities. However, due to the low contribution of direct PM emissions from point sources such as Hunter Units 1 and 2 and Huntington Units 1 and 2¹⁴⁰ to visibility impairment and, consequently, the low anticipated visibility benefits from small PM reductions, lowering the emission limit to 0.010 is unlikely to result in any meaningful visibility improvement. We agree with Utah that the existing PM₁₀ emission limit adopted for these sources in Section IX, Part H.22 of Utah’s SIP satisfies BART for these units. We are finalizing our approval of Utah’s PM₁₀ BART determination at Hunter Units 1 and 2 and Huntington Units 1 and 2. We find that an emission limit of 0.015 lb/MMBtu represents what can be continuously achieved with a properly operated baghouse on these units. The fabric filters (*i.e.*, baghouses) at Hunter and Huntington are all new since they were installed after 2008. Recent PSD BACT limits for coal-fired EGUs with new baghouses have typically ranged from 0.01 to 0.015 lb/MMBtu using Method 5.

In addition, we note that the latest revision to the EGU New Source Performance Standards (NSPS) requires modified units to meet a PM limit of 0.015 lb/MMBtu.¹⁴¹ Also, the EGU MATS rule set a PM emissions standard

¹⁴⁰ See Western Regional Air Partnership Regional Haze Rule Reasonable Progress Summary Report, Air Resource Specialist, Inc., State and Class I Area Summaries, Appendix p. 6–29, Table 6.13–19 (June 28, 2013). Available in the docket and at <http://www.wrapair2.org/RHRPR.aspx>.

¹⁴¹ 77 FR 9450 (Feb. 16, 2012) (codified at 40 CFR 60.42Da).

of 0.03 lb/MMBtu as MACT for existing EGUs, and the BART Guidelines provide that, “unless there are new technologies subsequent to the MACT standards which would lead to cost-effective increases in the level of control, you may rely on the MACT standards for purposes of BART.”¹⁴² Therefore, we are finalizing our proposed approval of Utah’s BART determination for PM₁₀ at Hunter Units 1 and 2 and Huntington Units 1 and 2.

K. Environmental Justice

Comment: One commenter requested that EPA’s FIP address any disproportionately high and adverse human health, economic, and environmental impacts on minority and low-income communities in Utah due to the regional haze plan. The commenter noted that this may be accomplished consistent with federal Executive Order 12898, which establishes environmental justice policy. The commenter also noted that societal costs such as general public health costs associated with poor air quality should be considered in the environmental justice analysis.

Response: In making a final determination in this case, EPA considered Executive Order 12898, which establishes federal executive policy on environmental justice. This Executive Order directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States. EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations. The installation of SCR at the two facilities will ensure greater emissions reductions of NO_x resulting in overall increases in the level of environmental protection for all affected populations.

EPA disagrees with the comment that societal costs such as general public health costs associated with poor air quality should be considered in the environmental justice analysis for this action. As addressed elsewhere in our RTC document, neither section 169A of

the CAA, nor the BART Guidelines, require the BART analysis to include or quantify benefits to health, as health impacts are appropriately addressed under other CAA programs. Moreover, an analysis of societal costs is unlikely to alter the impact relating to environmental justice concerns because the final rule will result in greater protection for all affected populations as a result of the installation of the most stringent control technology available for NO_x.

III. Final Action

For the reasons discussed more fully in sections I and II and detailed in our proposal and its accompanying supporting materials, in this action, we are partially approving and partially disapproving revisions to the Utah SIP submitted by the State of Utah on June 4, 2015. We are taking no action on the Utah SIP submittal of October 20, 2015.

Section 110(k)(3) of the Act addresses the situation in which an entire submittal, or a separable portion of a submittal, meets all applicable requirements of the Act. In the case where a separable portion of the submittal meets all the applicable requirements, partial approval may be used to approve that part of the submittal and disapprove the remainder. Since the portions of the regional haze SIP submittal we are approving are separable from the portions we are disapproving as explained earlier, each approved PM₁₀ BART determination for a particular pollutant for a given source will have an enforceable date of five years from the date of EPA’s approval.

Under section 110(k)(4) of the Act, EPA may approve a submittal based on a commitment of the State to adopt specific enforceable measures no later than one year after the date of approval of the submittal. We are conditionally approving the State’s recordkeeping requirements for the PM BART emission limitations based on Utah’s commitment to adopt and submit certain measures to address the deficiencies in the recordkeeping requirements. If the State fails to adopt and submit these measures within one year of this action, our conditional approval will be treated as a disapproval.

Under section 110(c)(1)(B) of the Act, within two years of disapproving a required submittal in whole or in part, EPA must promulgate a FIP to address the deficiencies, unless the State corrects the deficiencies through a submittal and EPA approves the submittal before we promulgate a FIP. As a result of our prior disapproval of Utah’s PM and NO_x BART submittals in

2012, there was a pending obligation for EPA to promulgate a FIP for PM and NO_x BART. In this action, we are promulgating a FIP for NO_x BART. Because we are approving Utah’s revised PM BART submittal, which corrects the previous deficiencies in the original PM BART submittal, there is no longer an obligation for EPA to promulgate a FIP for PM BART. Thus, EPA has discharged its FIP obligations with respect to PM and NO_x BART for the State of Utah.

A. Final Partial Approval

1. We are approving these elements of the State’s SIP submittals, which rely on elements from prior approvals:¹⁴³

- BART determinations and emission limits for PM₁₀ at Hunter Units 1 and 2 and Huntington Units 1 and 2.
- Monitoring, recordkeeping, and reporting requirements for units subject to the PM₁₀ emission limits, including conditional approval of the recordkeeping requirements for the PM₁₀ emission limits.

B. Final Partial Disapproval and Federal Implementation Plan

1. We are disapproving these aspects of the State’s June 4, 2015 SIP submittal:

- NO_x BART Alternative that includes NO_x and SO₂ emission reductions from Hunter Units 1 through 3, Huntington 1 and 2, and Carbon Units 1 and 2, and PM₁₀ emission reductions from Carbon Units 1 and 2.
- Monitoring, recordkeeping and reporting requirements for units subject to the BART Alternative.

2. We are promulgating a FIP to address the deficiencies in the Utah regional haze SIP. The FIP includes the following elements:

- NO_x BART determinations and limits for Hunter Units 1 and 2, Huntington Units 1 and 2.
- Monitoring, recordkeeping, and reporting requirements applicable to Hunter Units 1 and 2, and Huntington Units 1 and 2.

C. No Action

1. We are taking no action on the State’s October 20, 2015 SIP submittal which includes the following:

- The enforceable commitments to revise, at a minimum, SIP Section XX.D.3.c and State rule R307–150 by March 2018.

¹⁴³ As necessary for our approval, we are filling gaps in the 2015 Utah regional haze RH SIP submittals with the following already-approved sections from the 2011 Utah RH SIP: Section XX.B.8, Figures 1 and 2, Affected Class I Areas, pp. 8–9; Section XX.D.6.b, Table 3, BART-Eligible Sources in Utah, p. 21; Section XX.D.6.c, Sources Subject to BART, pp. 21–23.

¹⁴² 40 CFR part 51, appendix Y, section IV.C. While the Supreme Court reversed the D.C. Circuit’s judgment on the MACT rule, the Supreme Court did so based on EPA’s approach to the “appropriate and necessary” finding, not EPA’s determination of MACT for EGUs. *Michigan v. EPA*, 135 S. Ct. 2699 (2015).

IV. Incorporation by Reference

In this rule, the EPA is finalizing regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, the EPA is finalizing the incorporation by reference of the Utah Administrative Code discussed in section III, Final Action of this preamble. The EPA has made, and will continue to make, these documents generally available electronically through www.regulations.gov and/or in hard copy at the appropriate EPA office (see the ADDRESSES section of this preamble for more information).

V. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is exempt from review by the Office of Management and Budget (OMB) because this final rule applies to only two facilities containing four BART units. It is therefore not a rule of general applicability.

B. Paperwork Reduction Act

This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act (PRA).¹⁴⁴ Because this final rule applies to just two facilities, the PRA does not apply.

C. Regulatory Flexibility Act

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities.

EPA is partially disapproving the State's SIP submittal and promulgating a FIP that consists of imposing federal controls to meet the BART requirement for emissions on four specific BART units at two facilities in Utah. The net result of this action is that EPA is requiring direct emission controls on selected units at only two sources, and those sources are large electric generating plants that are not owned by small entities, and therefore the owners are not a small entities under the RFA.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of \$100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments.

EPA has determined that Title II of the UMRA does not apply to this rule. In 2 U.S.C. 1502(1) all terms in Title II of UMRA have the meanings set forth in 2 U.S.C. 658, which further provides that the terms “regulation” and “rule” have the meanings set forth in 5 U.S.C. 601(2). Under 5 U.S.C. 601(2), “the term ‘rule’ does not include a rule of particular applicability relating to . . . facilities.” Because this rule is a rule of particular applicability relating to all four BART units at the Hunter and Huntington plants, EPA has determined that it is not a “rule” for the purposes of Title II of the UMRA. The private sector expenditures that result from promulgating a FIP include BART controls for all four units at the Hunter and Huntington plants are \$58.6 million¹⁴⁵ per year. Additionally, we do not foresee significant costs (if any) for state and local governments. Thus, because the annual expenditures associated with promulgating a FIP are less than the threshold of \$100 million in any one year, this final rule is not subject to the requirements of sections 202 or 205 of UMRA. This final rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of “covered regulatory

action” in section 2–202 of the Executive Order. This action is not subject to Executive Order 13045 because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. Moreover, “regulation” or “rule,” is defined in Executive Order 12866 as “an agency statement of general applicability and future effect.” E.O. 12866 does not define “statement of general applicability,” but this term commonly refers to statements that apply to groups or classes, as opposed to statements, which apply only to named entities. The FIP therefore is not a rule of general applicability because its requirements apply and are tailored to only the Hunter and Huntington plants, which are individually identified facilities. Thus, it is not a “rule” or “regulation” within the meaning of E.O. 12866. However, as this action will limit emissions of NO_x, it will have a beneficial effect on children's health by reducing air pollution.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994).

The documentation for this decision is contained within the docket in a document entitled “Environmental Justice Analysis, November 2015.” This final rule will result in overall emission reductions for NO_x, and PM₁₀ and therefore an increase in the level of environmental protection for all affected populations.

K. Congressional Review Act

This action is not subject to the CRA because this is a rule of particular applicability. Additionally, this action

¹⁴⁴ 44 U.S.C. 3501 *et seq.*

¹⁴⁵ Andover Technology Partners, *Cost of NO_x BART Controls on Utah EGUs*, to EC/R, Inc. (May 13, 2016). Andover Technology Partners is a subcontractor to EC/R Incorporated.

is not a “major rule” as defined by 5 U.S.C. 804(2).

L. Judicial Review

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by September 6, 2016. Pursuant to CAA section 307(d)(1)(B), this action is subject to the requirements of CAA section 307(d) as it promulgates a FIP under CAA section 110(c). Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to

enforce its requirements. See CAA section 307(b)(2).

Authority: 42 U.S.C. 7401 *et seq.*

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Sulfur oxides.

Dated: June 1, 2016.

Gina McCarthy,
Administrator.

40 CFR part 52 is amended as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

■ 1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart TT—Utah

- 2. Section 52.2320 is amended by:
- a. In the table in paragraph (c), under the heading “R307–110. General Requirements: State Implementation Plan” revising the entry “R307–110–17.”
- b. In the table in paragraph (e), under the heading “XVII. Visibility Protection” adding in numerical order the entry “Section XX.D.6. Best Available Retrofit Technology (BART) Assessment for NO_x and PM”.

The revision and addition read as follows:

§ 52.2320 Identification of plan.

* * * * *

(c) * * *

Rule No.	Rule title	State effective date	Final rule citation, date	Comments
*	*	*	*	*
R307–110. General Requirements: State Implementation Plan				
*	*	*	*	*
R307–110–17.	Section IX. Control Measures for Area and Point Sources, Part H, Emissions Limits.	6/4/2015	[Insert Federal Register citation] 7/5/2016.	Except for Section IX.H.21.e. which is conditionally approved through one year from [Insert date of publication in the Federal Register], IX.H.21.g., Sections of IX.H.21 that reference and apply to the source specific emission limitations disapproved in Section IX.H.22, and Sections IX.H.22.a.ii-iii, IX.H.22.b.ii, and IX.H.22.c.
*	*	*	*	*
*	*	*	*	*
(e) * * *				
Rule title		State effective date	Final rule citation, date	Comments
*	*	*	*	*
XVII. Visibility Protection				

Rule title	State effective date	Final rule citation, date	Comments
Section XX.D.6. Best Available Retrofit Technology (BART) Assessment for NO _x and PM.	6/4/2015	[Insert Federal Register citation] 7/5/2016.	Except for XX.D.6.a the phrase "and BART for NO _x through alternative measures under 40 CFR 51.308(e)(2)"; XX.D.6.c; XX.D.6.d the phrase "NO _x and" in the first sentence, the entire last sentence in the introductory paragraph, all SO ₂ and NO _x provisions and the word "Permitted" in the "Utah Permitted Limits" column in Table 5, "Hunter 3" and the Hunter limits, and all provisions in the "Presumptive BART Rates" column in Table 5; XX.D.6.e the phrase "; and pursuant to 51.308(e)(2)(E)(3) all alternative measures must take place within the first planning period", the rows beginning with "Hunter 3", "Carbon 1" and "Carbon 2" in Table 6, and the entire paragraph immediately following Table 6.

■ 3. Section 52.2336 is added to read as follows:

§ 52.2336 Federal implementation plan for regional haze.

(a) *Applicability.* (1) This section applies to each owner and operator of the following emissions units in the State of Utah:

- (i) PacifiCorp Hunter Plant Units 1 and 2; and
- (ii) PacifiCorp Huntington Plant Units 1 and 2.

(2) [Reserved]

(b) *Definitions.* Terms not defined in this paragraph (b) shall have the meaning given them in the Clean Air Act or EPA's regulations implementing the Clean Air Act. For purposes of this section:

(1) *BART* means Best Available Retrofit Technology.

(2) *BART unit* means any unit subject to a Regional Haze emission limit in Table 1 of this section.

(3) *Continuous emission monitoring system* or *CEMS* means the equipment required by this section to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes (using an automated data acquisition and handling system (DAHS)), a permanent record of NO_x emissions, diluent, or stack gas volumetric flow rate.

(4) *FIP* means Federal Implementation Plan.

(5) The term *lb/MMBtu* means pounds per million British thermal units of heat input to the fuel-burning unit.

(6) NO_x means nitrogen oxides.

(7) *Operating day* means a 24-hour period between 12 midnight and the following midnight during which any

fuel is combusted at any time in the BART unit. It is not necessary for fuel to be combusted for the entire 24-hour period.

(8) The *owner/operator* means any person who owns or who operates, controls, or supervises a unit identified in paragraph (a) of this section.

(9) *Unit* means any of the units identified in paragraph (a) of this section.

(c) *Emission limitations.* (1) The owners/operators of emission units subject to this section shall not emit, or cause to be emitted, NO_x in excess of the following limitations:

TABLE 1 TO § 52.2336—EMISSION LIMITATIONS FOR BART UNITS

Source name/BART unit	NO _x Emission limitation—lb/MMBtu (30-day rolling average)
PacifiCorp Hunter Plant/Unit 1 ¹	0.07
PacifiCorp Hunter Plant/Unit 2 ¹	0.07
PacifiCorp Huntington Plant/Unit 1 ¹	0.07
PacifiCorp Huntington Plant/Unit 2 ¹	0.07

¹ The owners and operators of PacifiCorp Hunter Units 1 and 2 and Huntington Units 1 and 2, shall comply with the NO_x emission limit for BART of 0.07 lb/MMBtu and other requirements of this section by August 4, 2021.

(2) These emission limitations shall apply at all times, including startups, shutdowns, emergencies, and malfunctions.

(d) *Compliance date.* (1) The owners and operators of PacifiCorp Hunter

Units 1 and 2 shall comply with the NO_x emission limitation of 0.07 lb/MMBtu and other requirements of this section by August 4, 2021. The owners and operators of PacifiCorp Huntington Units 1 and 2 shall comply with the NO_x emission limitation of 0.07 lb/MMBtu and other requirements of this section by August 4, 2021.

(2) [Reserved]

(e) *Compliance determinations for NO_x.* (1) For all BART units:

(i) *CEMS.* At all times after the earliest compliance date specified in paragraph (d) of this section, the owner/operator of each unit shall maintain, calibrate, and operate a CEMS, in full compliance with the requirements found at 40 CFR part 75, to accurately measure NO_x, diluent, and stack gas volumetric flow rate from each unit. The CEMS shall be used to determine compliance with the emission limitations in paragraph (c) of this section for each unit.

(ii) *Method.* (A) For any hour in which fuel is combusted in a unit, the owner/operator of each unit shall calculate the hourly average NO_x emission rate in lb/MMBtu at the CEMS in accordance with the requirements of 40 CFR part 75. At the end of each operating day, the owner/operator shall calculate and record a new 30-day rolling average emission rate in lb/MMBtu from the arithmetic average of all valid hourly emission rates from the CEMS for the current operating day and the previous 29 successive operating days.

(B) An hourly average NO_x emission rate in lb/MMBtu is valid only if the minimum number of data points, as specified in 40 CFR part 75, is acquired by both the pollutant concentration

monitor (NO_x) and the diluent monitor (O₂ or CO₂).

(C) Data reported to meet the requirements of this section shall not include data substituted using the missing data substitution procedures of subpart D of 40 CFR part 75, nor shall the data have been bias adjusted according to the procedures of 40 CFR part 75.

(2) [Reserved]

(f) *Recordkeeping.* The owner/operator shall maintain the following records for at least five years:

(1) All CEMS data, including the date, place, and time of sampling or measurement; parameters sampled or measured; and results.

(2) Records of quality assurance and quality control activities for emissions measuring systems including, but not limited to, any records required by 40 CFR part 75.

(3) Records of all major maintenance activities conducted on emission units, air pollution control equipment, and CEMS.

(4) Any other CEMS records required by 40 CFR part 75.

(g) *Reporting.* All reports under this section shall be submitted to the Director, Office of Enforcement, Compliance and Environmental Justice, U.S. Environmental Protection Agency, Region 8, Mail Code 8ENF-AT, 1595 Wynkoop Street, Denver, Colorado 80202-1129.

(1) The owner/operator of each unit shall submit quarterly excess emissions reports for NO_x BART units no later than the 30th day following the end of each calendar quarter. Excess emissions means emissions that exceed the emissions limits specified in paragraph (c) of this section. The reports shall include the magnitude, date(s), and duration of each period of excess emissions, specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the unit, the nature and cause of any malfunction (if known), and the corrective action taken or preventative measures adopted.

(2) The owner/operator of each unit shall submit quarterly CEMS performance reports, to include dates and duration of each period during which the CEMS was inoperative (except for zero and span adjustments and calibration checks), reason(s) why the CEMS was inoperative and steps taken to prevent recurrence, and any CEMS repairs or adjustments. The owner/operator of each unit shall also submit results of any CEMS performance tests required by 40 CFR part 75.

(3) When no excess emissions have occurred or the CEMS has not been inoperative, repaired, or adjusted during the reporting period, such information shall be stated in the quarterly reports

required by paragraphs (g)(1) and (2) of this section.

(h) *Notifications.* (1) The owner/operator shall promptly submit notification of commencement of construction of any equipment which is being constructed to comply with the NO_x emission limits in paragraph (c) of this section.

(2) The owner/operator shall promptly submit semi-annual progress reports on construction of any such equipment.

(3) The owner/operator shall promptly submit notification of initial startup of any such equipment.

(i) *Equipment operation.* At all times, the owner/operator shall maintain each unit, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

(j) *Credible evidence.* Nothing in this section shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with requirements of this section if the appropriate performance or compliance test procedures or method had been performed.

[FR Doc. 2016-14645 Filed 7-1-16; 8:45 am]

BILLING CODE 6560-50-P

Exhibit C

PacifiCorp v. EPA, Consolidated Case Nos. 16-9541, 16-9542, 16-9543, 16-9545

PacifiCorp’s Request for Reconsideration and Request for Administrative Stay of EPA’s Final Rule: “Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze.” Docket ID No. EPA-R08-OAR-2015-0463 (Sep. 2, 2016)



William K. Lawson
Director, Environmental Services
1407 West North Temple, Suite 210
Salt Lake City, Utah 84116
801.220.4581 (Office)

September 2, 2016

Via E-Mail and Overnight Mail

The Honorable Gina McCarthy
Administrator, U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460
(McCarthy.Gina@epa.gov)

Shaun McGrath
Region 8 Administrator
U.S. Environmental Protection Agency
1595 Wynkoop Street
Denver, Colorado 80202
(r8eisc@epa.gov)

Re: Request for Reconsideration and Request for Administrative Stay of EPA's Final Rule: "Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze; Final Rule." Docket ID No. EPA-R08-OAR-2015-0463

Dear Administrators McCarthy and McGrath:

PacifiCorp respectfully requests that the U.S. Environmental Protection Agency ("EPA" or "Agency") reconsider and grant an immediate administrative stay of the compliance deadline and toll the effective date of certain requirements in the Agency's final rule cited above. 81 Fed. Reg. 43894 (July 5, 2016) ("Final Rule"). Specifically, PacifiCorp requests EPA reconsider and administratively stay the best available retrofit technology ("BART") requirements related to nitrogen oxide (NO_x) emission control equipment ("BART NO_x FIP") at PacifiCorp's Hunter power plant (Units 1 and 2) and Huntington power plant (Units 1 and 2) ("collectively Utah BART Units). PacifiCorp also requests EPA reconsider its disapproval of Utah's regional haze state implementation plan.

As the majority owner and operator of Hunter Units 1 and 2, and the owner and operator of Huntington Units 1 and 2, PacifiCorp will be forced to begin spending

millions of dollars (a total of **over one half billion dollars** of capital costs by EPA's estimate) to prepare to install selective catalytic reduction ("SCR") systems required under the BART NO_x FIP—expenditures that would be wholly unnecessary if PacifiCorp's legal challenges to the BART NO_x FIP are successful. Because these legal challenges are based on sound legal principles and are likely to succeed on the merits, and because a stay is in the public interest and necessary to prevent irreparable harm to PacifiCorp and PacifiCorp's customers, EPA should grant PacifiCorp's stay request. In contrast, no significant harm will result to either EPA or the public from a stay of the Final Rule—particularly because many of the emission reductions and resulting visibility improvements contemplated under the Final Rule already are in place as required by the Utah SIP, and the Final Rule does not require further emission reductions until 2021.

PacifiCorp is likely to succeed on the merits because the BART NO_x FIP is contrary to applicable law. First, EPA improperly rejected the State of Utah's regional haze state implementation plan ("Utah RH SIP"). Second, EPA failed to conduct an adequate statutory five-factor BART analysis to justify SCR for the Utah BART Units, and EPA has taken contradictory positions regarding the results of the BART analysis it did conduct. Not only do EPA's analysis and BART NO_x FIP disregard the Congressional mandate that states have the primary role in designing regional haze programs, they undermine the State of Utah's goal of improving visibility at a reasonable and responsible pace without causing unnecessary economic distress from higher electricity rates. EPA's rejection of the Utah RH SIP and imposition of the BART NO_x FIP are also inconsistent with EPA's BART determinations in other states.

PacifiCorp thus requests EPA to grant an immediate stay of the BART NO_x FIP and to reconsider its rejection of the Utah RH SIP and BART Alternative. PacifiCorp respectfully requests EPA act on this application by September 29, 2016. PacifiCorp will treat EPA's failure to act on this application by that date as a constructive denial of its request for stay.

I. Background

I.A. PacifiCorp's BART-eligible units in Utah.

PacifiCorp, which operates in Utah under the business name Rocky Mountain Power, supplies electricity to more than 1.8 million residential and business customers in the state of Utah and five other western states. As stated, PacifiCorp owns, in majority or whole, and operates the Utah BART Units.¹ PacifiCorp also owns a third unit at the Hunter plant, which is not BART-eligible, and is the owner of the Carbon plant, which closed in 2015. The Utah BART Units are the only sources in the state that Utah and EPA have determined to be subject to the Clean Air Act's ("CAA" or "the Act") BART requirements. As a result, the State of Utah, PacifiCorp and PacifiCorp's customers will

¹ Deseret Generation & Transmission Cooperative, Utah Associated Municipal Power Systems, and Utah Municipal Power Agency are co-owners of, and receive a portion of, the electrical output from certain affected units at the Hunter power plant. As a result, these entities and their customers will be similarly impacted by the Final Rule. The Huntington power plant is wholly owned and operated by PacifiCorp.

be uniquely and directly affected by EPA's final action regarding BART determinations in the Utah RH SIP.²

1.B. The NO_x history of the Utah BART Units.

The State of Utah has consistently submitted timely RH SIPs as required by the CAA. EPA, on the other hand, has not fulfilled its statutory duty to approve or disapprove these SIPs by hard deadlines established in the Act. *See* 42 U.S.C. § 7410(k)(1)(B) (requiring EPA to issue a finding of completeness within 60 days of a SIP submittal) and 7410(k)(2) (requiring EPA to issue a decision approving or disapproving the SIP within 12 months of finding a submission complete). Utah submitted RH SIPs in 2003 and 2008 that EPA failed to act on. As required by the CAA (42 U.S.C. § 7410(a)(2)), a Utah SIP becomes state law upon approval by the Utah Air Quality Board ("Board"), which is a necessary step before the SIP can be submitted to EPA. Thus PacifiCorp was, and is, legally bound by a Board-approved RH SIP even though EPA may never act on or approve that SIP.

The State of Utah submitted a RH SIP in 2003 (four years before EPA's deadline) and a revision in 2008 with requirements to make reasonable progress towards natural visibility in national parks and other similarly protected areas within its borders. *See* 42 U.S.C. § 7491. Utah's RH SIP revision in 2008 included NO_x BART determinations for the Utah BART Units. While EPA submitted comments to Utah on the NO_x BART determinations during the State comment process (to which the State responded in the final version), EPA did not act within the statutory deadlines to approve or disapprove the 2008 RH SIP submission as required by the CAA. In fact, EPA waited approximately four years before taking formal action on the 2008 RH SIP submittal. However, because the SIP submission became Utah law in 2008 (through amendments to Utah's State Implementation Plan, Section XX, Regional Haze, which were incorporated into state law through R307-110-28), PacifiCorp was legally required to install low NO_x burners and separated over-fire air ("LNB/SOFA" or "2008 BART Controls") on the Utah BART Units, which it did from 2009-2014.

Utah submitted additional RH SIP revisions to EPA on December 20, 2010 and May 26, 2011. The 2010 revisions clarified the NO_x BART determinations, while the 2011 submittal contained minor revisions related to the SO₂ BART Alternative SO₂ trading program. In the interim, EPA had been sued by WildEarth Guardians over its failure to act on Utah's 2008 RH SIP submission. EPA settled this suit with WildEarth Guardians through a consent decree, which required EPA to act on the 2008 Utah RH SIP by April 30, 2012.³ Acting to meet this deadline, but over Utah's and PacifiCorp's objections, EPA disapproved the State's BART determinations for NO_x and PM₁₀, while approving an SO₂ BART Alternative, the SO₂ backstop trading program. 77 Fed. Reg. 74355 (Dec. 14, 2012). EPA did not issue a FIP at this time. In response, Utah worked

² References to the Utah RH SIP include all supporting documents.

³ EPA incorrectly portrayed the 2011 SIP revisions as replacing the 2008 RH SIP, including the BART NO_x determinations in its 2016 Proposed Rule. However the BART NO_x determinations were only clarified, not replaced, by the 2011 SIP revisions. *See* 81 Fed. Reg. 2004, 2012 (Jan. 14, 2016).

closely with EPA to find a solution that would meet the applicable requirements of the CAA and satisfy EPA demands for the NO_x BART.

Based on more than ten years of working collaboratively with both EPA and a Regional Planning Organization (“RPO”) overseen by EPA, Utah has developed considerable knowledge and data regarding the most effective way to achieve greater “reasonable progress” at the Class I areas in Utah. Building on this expertise and local knowledge, and in close consultation with EPA, Utah submitted a revised RH SIP in 2015 – again at the request of EPA – which included extensive analysis supporting a BART Alternative for NO_x that would achieve greater reasonable progress than the most stringent BART option of SCR. The submission also provided an updated BART determination for PM₁₀. At EPA’s request, Utah submitted an additional RH SIP revision on October 20, 2015, with additional measures to ensure that the SO₂ emission reductions for the BART Alternative were accurately and transparently accounted for. EPA requested this additional RH SIP so that a potential obstacle to approval of the BART Alternative – that SO₂ emission reductions under the BART Alternative might be double counted – would be removed. EPA further commented on the BART Alternative for NO_x during the state rulemaking phase with the goal of helping Utah make sure that the BART Alternative met applicable CAA requirements.⁴ As a result, Utah’s determination that the BART Alternative would achieve greater reasonable progress represented extensive public involvement (including extensive involvement by EPA) through Utah’s public hearings and comment period.

After this lengthy history and close collaboration, EPA chose to issue a confusing and contradictory bifurcated proposed rule, where EPA found Utah’s weight-of-evidence analysis for the BART Alternative simultaneously to be both adequate and inadequate to meet the requirements of the CAA. EPA, Utah RH SIP Proposed Rule, 81 Fed. Reg. 2004 (Jan. 14, 2016) (“Proposed Rule”). EPA then disapproved the BART Alternative portion of the SIP on July 5, 2016, implying alleged violations of unidentified CAA “applicable requirements” in the way Utah analyzed the evidence for the BART Alternative. *See, e.g.*, 81 Fed. Reg. 43894, 43909, 43911-12.

II. Request for Reconsideration

II.A. EPA should reconsider the Final Rule because issues of central relevance were unavailable (and thus impracticable) to comment on during the period for public comment.

⁴ EPA claims that no one can rely on EPA’s statements or representations prior to a final rule: “EPA comment letters are intended to help improve any SIP revision that is under development, but they do not constitute agency action on that SIP revision or constitute any assurance of positive action. . . .” 81 Fed. Reg. at 43911. However, EPA offered its help in this instance specifically intending for it to be relied upon. And indeed it was. EPA does itself, the states, regulated sources and the public a disservice if, as the federal agency charged with helping states (and BART sources) comply with the CAA, its comments and directive assistance for SIP development are mere platitudes. EPA’s efforts to improve SIP revisions, however, only ring hollow as EPA now asserts that any such help – here and in the future – is inherently unreliable and in fact should never be relied upon.

EPA proposed amendments to the nationwide Regional Haze Rule on May 4, 2016, that included issues of central relevance to the Final Rule. 81 Fed. Reg. 26942 (“2016 RH Rule Amendments”). The public comment period in the Proposed Rule for the Utah RH SIP/EPA FIP closed on March 14, 2016. 81 Fed. Reg. at 2004. Although PacifiCorp submitted comments to EPA addressing the issues raised by the 2016 RH Rule Amendments, EPA refused to consider PacifiCorp’s comments because they were submitted after the close of the comment period for the Utah RH SIP. *See* EPA, Response to Comments for the Federal Register Notice for Air Quality State Implementation Plans (Utah) (June 1, 2016) EPA-R08-OAR-2015-0463 (“RH RTC”) at 8, note 1. However, because the issues raised by the 2016 RH Rule Amendments are of central relevance and may have tipped the weight of evidence against EPA’s decisions to reject the BART Alternative and to impose the BART NO_x FIP in the Final Rule, EPA should reconsider the Final Rule.

The CAA requires the Administrator of EPA to convene a reconsideration proceeding if “it was impracticable to raise [an] objection” to a final EPA action within the time for public comment or if “the grounds for such objection arose after the period for public comment (but within the time specified for judicial review)” and such objection is “of central relevance to the outcome of the rule.” 42 U.S.C. § 7607(d)(7)(B). The CAA further provides that “[a]ll documents which become available after the proposed rule has been published and which the Administrator deems are of central relevance to the rulemaking shall be placed in the docket as soon as possible after their availability.” 42 U.S.C. § 7607(d)(4)(B)(i). As explained by the 6th Circuit Court of Appeals:

The D.C. Circuit has read this portion of the Clean Air Act as permitting the EPA to consider comments submitted after the close of the comment period. *Sierra Club v. Costle*, 657 F.2d 298, 397-98 (D.C.Cir. 1981). This seems a reasonable interpretation of section 7667(d)(4)(B)(i), since this subparagraph refers both to comments submitted during the comment period and comments submitted afterward.

Air Pollution Control Dist. of Jefferson County v. EPA, 739 F.2d 1071, 1081 (6th Cir. Ct. App. 1984).

EPA should consider the 2016 RH Rule Amendments because they include information of central relevance to the outcome of the Final Rule. “[N]ew information . . . may dictate a revision or modification of any promulgated standard or regulation.” *Oljato Chapter of Navajo Tribe v. Train*, 515 F.2d 654, 660 (D.C. Cir. 1975) (citing legislative history); *see also* *Maier v. EPA*, 114 F.3d 1032, 1037 (10th Cir. 1997) (citing *Oljato*). Because EPA’s 2016 RH Rule Amendments were issued after the comment period for the Final Rule, EPA did not consider the following key issues of central relevance to its decisions: (1) reductions in anthropogenic emissions have had limited impact on visibility improvements for Class I areas in the Western United States; and (2) when determining visibility impacts, EPA recommends states compare those days with the most impairment from *anthropogenic* sources rather than just the days with the most

haze. Because EPA did not take into account or receive meaningful comments on these centrally relevant factors it did not properly consider them. Thus, reconsideration is appropriate.

II.A.1 The 2016 RH Rule Amendments add sufficient weight for EPA to approve the BART Alternative.

In the 2016 RH Rule Amendments, EPA advises states to measure visibility impairment “based on anthropogenic visibility impairment rather than based on the days with highest deciview values due to impacts from all types of sources.” 81 Fed. Reg. at 26955. As EPA explains, the current Regional Haze Rule “could be read to direct states and the EPA to use the days with the most perceptible *anthropogenic* impairment as the 20 percent most impaired days.” *Id.* (emphasis added). These conclusions from the 2016 RH Rule Amendments support Utah’s consideration of a variety of visibility-related data, such as the Annual Emissions Comparison as well as the IMPROVE Monitoring Data, rather than just the 98th Percentile modeling metric (which EPA relied on exclusively). *See* Sections III.A.3, 4, and 7 *infra* outlining EPA’s disapproval of the Utah RH SIP based on an evaluation of these metrics that contradicts the 2016 RH Rule Amendments.

EPA admits that, while visibility improvement has been significant in the East (where source-specific BART was largely avoided and BART Alternatives were used), some areas in the West have not experienced significant improvement because “reduced emissions from man-made sources have been overwhelmed by impacts from wildfire and/or dust events.” *Id.* at 26946. This admission is significant and translates to an admission that the modeled visibility improvements, upon which EPA relies to reject the BART Alternative, often do not translate into real visibility improvements in western Class I areas. This aligns with and supports Utah’s findings, based on the IMPROVE monitoring data, that reductions in anthropogenic NO_x emissions are not reliably linked to visibility improvements. *See* Utah DAQ Staff Review, 2008 PM BART Determination and Recommended Alternative to BART for NO_x, May 13, 2015, at 1-14 through 1-19 (“Staff Report”).

EPA also endorses strategies developed by RPOs to best identify and address the pollutants that contribute to haze within specific regions. 81 Fed. Reg. at 26947. This supports Utah’s reliance on increased SO₂ reductions to compensate for slightly lower NO_x reductions under the BART Alternative, since the RPOs (the Western Regional Air Partnership, or “WRAP,” in this instance) have identified SO₂ as the most significant anthropogenic pollutant contributing to the haze on the Colorado Plateau. *See* GCVTC Report at 32-33; WRAP Report at 6-11 through 6-16. *See also* Section III.A.7 *infra* outlining EPA’s rejection of Utah’s Annual Emissions metric, which relies on SO₂ as the pollutant with the greatest impact on visibility for Class I areas on the Colorado Plateau.

II.A.2 The 2016 RH Rule Amendments undermine EPA’s decision that SCR is reasonable as BART.

The same findings discussed above support PacifiCorp’s objection that SCR is not reasonable as BART in EPA’s FIP. First, the 2016 RH Rule Amendments verify that

emission reductions from stationary sources have not led to improved visibility in some areas in the West. Instead, the questionable impacts from anthropogenic NO_x emissions reductions in the West, call into question EPA's modeled visibility improvements for the affected Class I areas. EPA's BART analyses use modeled visibility improvements to support its FIP, predicting a combined 6.4 dv modeled visibility improvement (1.5 dv + 1.3 dv + 1.9 dv + 1.7 dv) from the installation of LNB/SOFA/SCR at all of the Utah BART Units. 81 Fed. Reg. at 43903-04, Tables 2, 3, 4, and 5. Yet, as now conceded in the 2016 RH Rule Amendments, such modeled visibility improvements do not reliably translate to real visibility improvement in all western Class I areas. EPA recognizes that there "are . . . some western areas where visibility has changed only by a slight amount." 81 Fed. Reg. at 26946. EPA has a statutory duty to determine the "degree of improvement in visibility which *may reasonably be anticipated to result* from the use of such technology." 42 U.S.C. § 7491(g)(2) (emphasis added).

Given this statutory duty and the information referred to in the 2016 RH Rule Amendments, EPA should stay the Final Rule and commence a "reconsideration" proceeding to (1) consider the BART controls already required for these "western areas" where little to slight visibility improvement occurred, (2) determine why those BART controls did not result in greater visibility improvement, (3) determine the difference between the modeled and actual visibility improvements for these western areas, (4) identify why EPA's modeled visibility data were incorrect, and (5) then apply the lessons learned to EPA's BART determination for the Utah BART Units. This analysis on reconsideration is particularly important where, as here, data presented by Utah show a lack of actual monitored visibility improvements from previous NO_x emissions reductions. *See* Staff Report at 1-14 through 1-19.

Further, the 2016 RH Rule Amendments underscore that BART controls must be implemented before the compliance deadline of the first implementation period, which is July 31, 2018. *See* 2016 RH Rule Amendments at 26965. Although EPA proposes extending the due date for SIPs for the second implementation period (2018-2028), EPA emphasizes that it does "*not* intend for the proposed changes to affect the development of state plans for the first implementation period . . . due under the existing Regional Haze Rule." *Id.* at 26944. EPA emphasizes that SIPs must contain emission reduction measures targeted at achieving reasonable progress by the close of the implementation period addressed by the SIP, a "long-standing EPA interpretation." *Id.* *See* Section III.A.6 *infra*, outlining the failure of EPA's FIP to require BART to be installed by 2018, the close of the first implementation period.

Because the 2016 RH Rule Amendments contradict key analyses that EPA relied on to disapprove the BART Alternative and to support the FIP, EPA should reconsider the Final Rule.

III. Administrative Stay Argument

In addition to the issues for reconsideration outlined above, EPA should stay implementation of the BART NO_x FIP requirements because there are numerous legal

and technical flaws in the Final Rule. Because the FIP is dependent upon EPA's decision to reject the BART Alternative, EPA should stay the entire Rule.

The legal standard for an administrative stay is even broader than the standard for a judicial stay. The Administrative Procedures Act grants EPA authority to stay the BART NO_x FIP's requirements when "justice so requires . . . pending judicial review." 5 U.S.C. § 705. Despite this broad authority to grant stays, agencies often apply the more specific criteria governing preliminary injunction requests when determining whether a stay should be granted. *See Affinity Healthcare Servs. v. Sebelius*, 720 F. Supp. 2d 12, 15 note 4 (D.D.C. 2010) ("Motions to stay agency action pursuant to [5 U.S.C. § 705] are reviewed under the same standards used to evaluate requests for interim injunctive relief."). "A plaintiff seeking a preliminary injunction must establish that he is likely to succeed on the merits, that he is likely to suffer irreparable harm in the absence of preliminary relief, that the balance of equities tips in his favor, and that an injunction is in the public interest." *Winter v. NRDC*, 555 U.S. 7, 20 (2008); *see also RoDa Drilling Co. v. Siegal*, 552 F.3d 1203, 1208 (10th Cir. 2009) (same).

The Tenth Circuit has adopted a less stringent requirement for proving the likelihood of success. *See Davis v. Mineta*, 302 F.3d 1104, 1111 (10th Cir. 2002). In the Tenth Circuit:

If the plaintiff can establish that the latter three requirements tip strongly in his favor, the test is modified, and the plaintiff may meet the requirement for showing success on the merits by showing that questions going to the merits are so serious, substantial, difficult, and doubtful as to make the issue ripe for litigation and deserving of more deliberate investigation."

Id. (citation omitted). This modified requirement for likelihood of success applies here, as discussed below.

III.A. PacifiCorp Is Likely to Prevail on The Merits.

The EPA's NO_x BART determination in the FIP should be stayed by EPA because the determination, and EPA's rejection of Utah's RH SIP, are flawed in several critical respects, as shown below. Thus, PacifiCorp's challenges to EPA's disapproval of the Utah RH SIP and adoption of the FIP in the U.S. Court of Appeals for the Tenth Circuit are likely to succeed on the merits (and, at a minimum, present serious and substantial questions). EPA's errors range from fundamental legal misinterpretations and improper applications of its own rules governing BART determinations to flawed technical analyses and procedural failures. In addition, EPA's errors result in unlawful federal interference with the State's regulatory processes and improperly require expenditures in excess of \$700 million dollars that will impact energy costs throughout the State of Utah. EPA should take into account the seriousness of these issues in evaluating PacifiCorp's likelihood of success on the merits. Even if EPA believes that the courts may ultimately sustain the Final Rule upon judicial review, PacifiCorp's claims provide a compelling basis for a stay pending judicial review because the extreme

costs, indeterminate benefits, and the potential for interference with Utah's state sovereignty present such substantial issues.

III.A.1. PacifiCorp's requests for reconsideration support a stay.

As outlined above, EPA's failure to consider the 2016 RH Rule Amendments, and the related implications, when it promulgated the Final Rule supports reconsideration of the Final Rule by EPA. The D.C. Circuit Court has found that a legitimate case for reconsideration supports a stay. *See, e.g., Portland Cement Ass'n v. EPA*, 665 F.3d 177, 189 (D.C. Cir. 2011) ("industry should not have to build expensive new containment structures until the standard is finally determined"). In addition, several courts have recently granted stays based on substantial issues of cost and state sovereignty raised under regional haze rules, even where EPA has refused to grant an administrative stay. *See Texas v. EPA*, 2016 WL 3878180 at *20 (5th Cir. July 15, 2016); *Oklahoma v. EPA*, 723 F.3d 1201, 1206-07 (10th Cir. 2013); *Wyoming v. EPA*, Nos. 14-9529, 14-9530, 14-9533, 14-9534 (10th Cir. Sept. 9, 2014); *Cliffs Nat. Res. Inc. v. EPA*, Nos. 13-1758, 13-1761 (8th Cir. June 14, 2013). As outlined above, the Tenth Circuit Court of Appeals has ruled that plaintiffs may meet the success on the merits requirement by showing their claims are "serious, substantial, difficult, and doubtful as to make the issue ripe for litigation and deserving of more deliberate investigation." *Davis v. Mineta*, 302 F.3d 1104, 1111 (10th Cir. 2002). Because PacifiCorp's claims for reconsideration are sufficient to meet this standard, they also support the likely success of such claims on the merits and the need for EPA to grant the requested stay.

III.A.2. EPA failed to consider required cost and energy/environmental impacts when rejecting the BART Alternative.

EPA violated the clear language of the Regional Haze Statute (42 U.S.C. §§ 7491 and 7492) and Rule (40 C.F.R. §§ 51.300-309) by ignoring comparative costs in its rejection of the BART Alternative. When evaluating the BART Alternative, the ultimate question is whether or not it will result in greater "reasonable progress" than BART. 40 C.F.R. § 308(e)(2). EPA improperly redefines "reasonable progress" as solely "greater visibility improvement," while the Regional Haze Statute clearly requires consideration of costs – including the comparative cost differences between the BART Alternative and BART – to determine reasonable progress. Indeed, the plain language of the CAA makes crystal clear that "in determining reasonable progress there shall be taken into consideration the costs of compliance" 42 U.S.C. § 7491(g)(1). And yet EPA claims, "because the described cost difference does not have a direct bearing on whether the BART Alternative achieves greater reasonable progress, it is not material to our action whether we agree or disagree with Utah's conclusion that the BART Alternative would have a lower cost impact." 81 Fed. Reg. at 43901. EPA cannot make a determination about whether the BART Alternative makes greater reasonable progress than BART, without comparing the two options, and a reasonable progress determination, by statute, considers costs.

By refusing to consider comparative costs, EPA effectively has written "reasonable" out of the "reasonable progress" standard and instead attempts to impose a

more restrictive “visibility-only” standard that was not contemplated by Congress. Even in a ruling where cost was less prominently required by the statute, the U.S. Supreme Court required EPA to consider costs, explaining, “Statutory context reinforces the relevance of cost.” *Michigan v. EPA*, 135 S. Ct. 2699, 2708 (2015). Here, the need to consider the comparative cost difference is even more important because not only the context but the plain language of the RH Statute requires it.

Also, EPA’s own regulations require EPA to “[c]onsider the costs of compliance” as the first requirement for determining reasonable progress. 40 C.F.R. § 51.308(d)(1)(i)(A). The Tenth Circuit Court of Appeals confirmed the requirement to consider not only costs, but also and energy/environmental impacts, to determine reasonable progress under the Regional Haze Statute:

“Reasonable progress” is measured by comparing “the costs of compliance, the time necessary for compliance, . . . the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any existing [regulated] source” (known as the “four factors”).

WildEarth Guardians v. EPA, 770 F.3d 919, 924 note 3 (10th Cir. 2014) (quoting 42 U.S.C. § 7491(a)(4), emphasis added).

EPA’s refusal to consider energy/environmental factors as part of the assessment of the BART Alternative is similarly fatal to EPA’s ultimate determinations in the Final Rule. As noted above, the Tenth Circuit has explained that “reasonable progress” is measured by comparing, among other things, energy and non-air quality environmental impacts. *WildEarth Guardians*, 270 F. 3d at 924. Like costs, energy/environmental impacts are required to determine reasonable progress by the Regional Haze Statute: “in determining reasonable progress there shall be taken into consideration . . . the energy and nonair quality environmental impacts of compliance.” 42 U.S.C. § 7491(g)(1). Like costs, EPA claims that although “the Utah BART Alternative would avoid an annual energy penalty of approximately \$2 million Because such benefits do not have direct bearing on whether the BART Alternative achieves greater reasonable progress, it is not material to our action whether we agree or disagree with Utah’s assessment that they reduce energy and non-air quality impacts.” 81 Fed. Reg. at 2024.

In short, PacifiCorp will prevail because EPA defied the plain language of the statute when it refused to consider comparative costs and energy impacts/ non-air quality environmental impacts to disapprove Utah’s BART Alternative.

III.A.3. EPA introduces a new, narrow “clearly demonstrated . . . greater visibility benefits” standard in the Final Rule that is contrary to the statutory “greater reasonable progress” standard.

The EPA excluded costs and energy/non-air quality impacts from consideration when analyzing the BART Alternative because EPA illegally changed the statutory “greater reasonable progress” standard to the illegal and narrower “greater visibility benefits” standard. For the first time in the Final Rule, EPA introduces this new standard

for the weight-of-evidence analysis for the BART Alternative. EPA's new standard is most clearly articulated in the Response to Comments: "The weight-of-evidence analysis answers just this question—whether the Alternative will clearly result in greater visibility benefits." RH RTC at 39. However, under the Clean Air Act a "reasonable progress" analysis, and by extension a "greater reasonable progress" analysis, requires analysis of not just visibility impacts but also the specific costs of compliance, energy impacts, other environmental impacts, and the useful life of the source.⁵ EPA's newly minted "greater visibility benefits" test excludes several of these factors and thus does not comply with the plain language of the statute.

Seemingly in an effort to quietly implement a new standard in the Final Rule, EPA fails to clearly explain the new standard or its narrowness except in its application. At page 43902 in the first column, for example, EPA applies the standard to reject the BART Alternative: "[W]e find that, on balance, the evidence does not show that the Alternative *clearly achieves greater visibility benefits* than BART." (Emphasis added); *see also, e.g.*, 81 Fed. Reg. at 43897, 43901, 43909, 43915. EPA then continues to develop and apply the new standard through several separate explanations in the Final Rule.

[Evaluating the evidence] involves assigning weights to each piece of information that indicate *the degree to which it supports a finding that the alternative program will achieve greater visibility benefits* [emphasis added]. Such a weighing system might find that: (i) The information *clearly* shows the alternative will achieve greater reasonable progress than BART [emphasis in original]; (ii) the information supports the alternative in some way, *but not clearly* [emphasis added]; or (iii) the information does not support the alternative. . . .

. . . .

[W]e assessed the [State-provided] metrics collectively to determine whether the relevant evidence, considered as a whole, *clearly demonstrated that the alternative program achieves greater visibility benefits*. [emphasis added] . . . Our initial review considered whether each of the nine metrics met the *threshold regulatory requirement that information considered in a weight-of-evidence analysis be relevant to an assessment of visibility impacts*. [emphasis added] . . . the [costs and energy and non-air quality] metrics do not evaluate *visibility* benefits [emphasis in original] at the nine Class I areas impacted by the State's sources. Therefore . . . we did not give this information any weight in our evaluation of whether the State has demonstrated that its BART Alternative achieves greater reasonable progress than BART.

⁵ "For purposes of this [Regional Haze] section—in determining reasonable progress there shall be taken into consideration the costs of compliance, the time necessary for compliance, and the energy and nonair quality environmental impacts of compliance, and the remaining useful life of any existing source subject to such requirements." 42 U.S.C. § 7491(g)(1).

81 Fed. Reg. at 43897.

In other words, EPA's new "greater visibility benefits" standard, as applied, takes the statutory definition of greater "reasonable progress," subtracts from that definition the required components of costs, energy and non-air quality considerations, and then applies the new standard absent such components. This EPA cannot do. Courts have found procedural error where, as here, "vital assumptions" regarding the basis for EPA's new standard do not conform to the governing statute and EPA's own regulations, and the Agency's subsequent justification was not subject to notice-and-comment rulemaking. See *New Jersey v. EPA*, 517 F.3d 574, 583-84 (D.C. Cir. 2008) (vacating EPA rulemaking that "nullifie[d]" provisions of the CAA). Vacatur of agency action is "the normal remedy" for procedural error. *Allina Health Servs. v. Sebelius*, 746 F.3d 1102, 1110-11 (D.C. Cir. 2014). PacifiCorp is likely to prevail on the merits regarding this issue.

III.A.4. EPA failed to give proper deference to Utah's selection and weighing of metrics in rejecting the BART Alternative.

Congress stated in Section 169A(b)(2)(A) of the CAA that BART is "determined by the State." 42 U.S.C. § 7491(b)(2)(A) Utah determined that LNB/SOFA were NO_x BART for the Utah BART Units in its 2008 SIP, rejecting SCR. This requirement subsequently became law in Utah (and EPA failed to fulfill its duty to respond to this action for years). Based on this PacifiCorp installed the new equipment required by Utah's NO_x BART determination. When EPA rejected this determination more than four years after it was submitted, the State proceeded to propose a BART Alternative that would achieve greater reasonable progress, based on an analysis of nine different metrics. However, EPA again rejected Utah's analysis based on a single metric (out of the nine) that EPA claims is enough—on its own—to overturn the State's determination.

The single metric is the 98th percentile metric. The 98th percentile metric represents the visibility impact occurring on a single day during the year (normally the eighth highest day), and is based on a computerized model which relies on a myriad of inputs and assumptions. As EPA itself has recognized, this metric represents only "the extreme tails of a distribution," appropriate for determining whether a source is BART-eligible, but not to determine the precise amount of visibility impact. EPA, 70 Fed. Reg. 39104, 39121 (July 6, 2005) ("BART Guidelines").

In order to determine reasonable progress, as required for a BART Alternative, the RH Rule requires "improvement in visibility for the most impaired days . . . [and] no degradation in visibility for the least impaired days." 40 C.F.R. § 51.308(d)(1). The most and least impaired days are defined as the 20 percent highest and lowest days of monitored visibility impairment. 40 C.F.R. § 51.301. Thus, the 98th percentile metric—based on modeling, not monitoring—is not sufficient, by itself, to determine improvement in visibility or reasonable progress. Again, EPA normally recognizes this fact:

[T]he 98th percentile value would only be used to determine whether a particular BART-eligible source would be subject to further review by the State. . . . In determining what, if any, emission controls should be required, the State will have the opportunity to consider the frequency, duration, and intensity of a source's predicted effect on visibility.

BART Guidelines, 70 Fed. Reg. at 39121. Contrary to this EPA statement, in the Final Rule EPA wrongly "gives most weight to the visibility impacts based on the 98th percentile air quality modeling results." In fact, EPA gives so much weight to the 98th percentile metric that it overcomes all the other metrics relied on by Utah and wrongly causes EPA to conclude that the BART Alternative does not result in greater reasonable progress (or to be more precise, EPA's substitute standard—greater visibility improvement). 81 Fed. Reg. at 43899.

EPA also claims that "the State's summary of the weight-of-evidence did not include the results from the 98th percentile modeling impact," and that the State "did not assess the relative strengths and weaknesses of the metrics." 81 Fed. Reg. at 43897-98. However, contrary to EPA's claim in the Final Rule, Utah took the 98th percentile metric into account and properly weighed its value in making its determination that the BART Alternative provides greater reasonable progress than EPA's BART determination of SCR. *See* Staff Report, at 1-14 through 1-19.

While the Staff Report is understandably technical, its findings are clear: NO_x reductions over the past 15 years have not resulted in the visibility benefits predicted by the 98th percentile metric, while SO₂ reductions have. *Id.* at 1-15. Based on these findings:

DAQ has greater confidence that modeled improvements due to reductions in SO₂ will be reflected in improved visibility . . . to the Class I areas, while reductions in NO_x have a more uncertain benefit."

Id. at 1-19. Based on this substantial analysis, the State gave more weight to the visibility benefits associated with its BART Alternative, which relies on the reduction of both SO₂ and NO_x emissions, and rightly gave only marginal weight to the 0.14 dv advantage modeled for the 98th percentile metric associated with EPA's BART requirement, which only relied on the reduction of NO_x emissions. The data contradicting the 98th percentile metric include real-time monitoring data showing that actual NO_x emission reductions achieved at multiple anthropogenic sources surrounding the Class I areas have not led to visibility improvements predicted by the model. *Id.* at 1-15 and 1-18. On the other hand, the same monitoring data showed that SO₂ reductions were more reliably linked to the visibility improvements predicted by the modeling. *Id.* Utah properly reviewed observed monitoring data to verify, analyze and provide context for the computer model results used in the 98th percentile metric. With all of that information in mind, Utah was able to determine what weight the 98th percentile modeling results should be given in the BART Alternative analysis. Such actions fall totally within the State of Utah's discretion; such discretion cannot be coopted by EPA because it does not like the state's result. The BART Guidelines establish that states have the "flexibility to assess visibility

improvements due to BART controls by one or more methods, or by a combination of methods.” 70 Fed. Reg. at 39129, and states “are **free to determine the weight and significance to be assigned to each factor**” for visibility improvements. 40 C.F.R. Part 51, App. Y, IV(D)(5) (emphasis added).

EPA has been warned by the courts before for failing to account for the limitations of the computerized modeling relied on for the 98th percentile metric. The Ninth Circuit Court of Appeals recently remanded a BART determination to EPA that failed to account for “the model’s ability to anticipate improvements at a level allegedly within its margin of error, whether perceptible or not to the human eye.” *Nat’l Parks Conservation Ass’n v. EPA*, 788 F.3d 1134, 1147 (9th Cir. 2015). EPA has estimated that, based only on this metric, its chosen BART control (SCR at all four units) would result in an average incremental visibility improvement (over the BART Alternative) at the nine impacted Class I areas of just 0.14 deciviews (approximately one-seventh of what is discernible to the human eye). 81 Fed. Reg. at 43898-99. And yet EPA relies solely on this metric, for which many of the computerized modeled visibility results are within the margin of error, to reject Utah’s BART Alternative, which properly gave this metric less weight. Further, the cases EPA cites as support for primary reliance on the 98th percentile metric do not support sole reliance on this metric when it contradicts other evidence submitted by a State. *See* 81 Fed. Reg. at 2022, note 90 (claiming to cite regional haze determinations where the 98th percentile metric is “one of the primary metrics that EPA has relied on”).⁶

The CAA Statute requires that “the Administrator shall approve such [SIP] as a whole if it meets all of the applicable requirements of [the Clean Air Act].”). By reanalyzing, distorting, and even completely disallowing several of the metrics provided by the State, and placing undue emphasis on the 98th percentile metric, EPA unlawfully imposes its own interpretation of which “evidence” should be considered and emphasized. Such value judgments are not an applicable requirement under the CAA but are instead left to the discretion of the states. EPA can cite no statute or regulation that requires the 98th percentile metric to outweigh all other evidence presented by the state.

Because “Congress intended the states to decide which sources impair visibility and what BART controls should apply to those sources,” *American Corn Growers Ass’n v. EPA*, 291 F.3d 1, 8 (D.C. Cir. 2002), EPA must defer to the State’s analysis of the evidence unless it violates an applicable requirement of the Clean Air Act. Here, it does not. EPA admits Utah’s BART Alternative is a “close call.” 81 Fed. Reg. at 43912. EPA also admits its role is deferential to the States as long as a SIP meets the applicable requirements of Act. *See, e.g.*, 81 Fed. Reg. at 2006 (“it is preferable that the regional haze program be implemented through state plans”); 81 Fed. Reg. at 43909, 43912. And EPA admits it must approve a regional haze SIP when a state’s discretion is “reasonably exercised and . . . supported by adequate documentation of its analyses.” 81 Fed. Reg. at 43909, citing Proposed Rule, 81 Fed. Reg. at 2006. As discussed above, the State’s

⁶ It should be noted that the Maryland determination cited by EPA does not use or mention the 98th percentile metric. The Tesoro and Arizona determinations merely used the 98th percentile metric as additional support for other state metrics that demonstrated greater reasonable progress by substituting SO₂ for NO_x reductions.

legitimate consideration of the undisputed and massive cost difference between the Alternative and BART, as well as the energy/environmental costs of BART, are appropriate under the Act. The State's discounting of the marginal visibility improvements predicted by the 98th percentile metric, which are contrary to actual monitored data, is appropriate under the Act. Where, as here, the State has provided numerous metrics supported by legitimate evidence and analysis, a "close call" must weigh in Utah's favor, and EPA must give the proper deference to the State's determination. PacifiCorp is likely to prevail on this issue.

III.A.5. EPA's failure to properly account for "existing pollution control equipment" when calculating the visibility impact and costs for the FIP violates the Clean Air Act.

EPA's NO_x BART analysis fails to account for the installed LNB/SOFA when conducting the baseline emissions analyses, cost analyses, and visibility improvement analyses. The LNB/SOFA were installed at each of the Utah BART Units from 2006-2014, a fact that EPA openly acknowledges. *See, e.g.*, 81 Fed. Reg. at 2023. However, EPA conducted a new NO_x BART analysis for its FIP that ignored the existing LNB/SOFA for all practical purposes (pretending the LNB/SOFA didn't exist when conducting the cost and visibility analyses). EPA calculated "cost-effectiveness" and "visibility improvement" for NO_x BART at the Utah BART Units as if the LNB/SOFA had not been installed. EPA's failure to account for "existing pollution control equipment" is contrary to the CAA and skewed EPA's FIP to make SCR look more reasonable by taking credit for reductions from the existing equipment. *See North Dakota v. EPA*, 730 F.3d 750, 763-64 (8th Cir. 2013) (vacating a FIP where EPA ignores reductions from existing pollution control equipment).

Given that a review of "any pollution equipment in use or in existence at the source" is one of the five BART factors, EPA is required by statute to properly account for this equipment in its BART analysis. On this basis alone, EPA should grant this Request for Reconsideration and Stay.

III.A.6. EPA's FIP is illegal because it does not – and never can – ensure BART implementation by 2018 as required by law.

EPA's FIP does not ensure the installation of BART controls during the time period covered by the SIP and is therefore unlawful. In developing a FIP for NO_x BART, EPA is subject to the same regulatory limitations as a state. *See* 77 Fed. Reg. 40150, 40164 (July 6, 2012) ("At the point EPA becomes obligated to promulgate a FIP, EPA steps into the State's shoes, and must meet the same requirements. . . ."). Further, "EPA may not use its own delay as an excuse for imposing burdens . . . that the Regional Haze Rule does not permit." *Texas v. EPA*, No. 16-60118, 2016 WL 3878180, at *17 (5th Cir. July 15, 2016). Thus, if the EPA FIP does not comply with same requirements that would bind Utah, even if this is caused by EPA's failure to timely act on Utah's 2008 SIP, the FIP is invalid.

Under the Regional Haze Rule, SIPs (and therefore FIPs) must establish “the emission reduction measures needed to achieve [the reasonable progress goal] *for the period covered by the implementation plan*.” 40 C.F.R. § 51.308(d)(1)(i)(B) (emphasis added). SIPs must also impose “enforceable emissions limitations, compliance schedules, and other measures as necessary to achieve the reasonable progress goals” within the planning period of the SIP. 40 C.F.R. § 51.308(d)(3).

BART is one of the enforceable emissions limitations and must be included in a state’s initial SIP. 40 C.F.R. § 51.308(e). The first planning period for SIPs lasts from 2007–2018, and states are required to submit revised SIPs for each ten-year period thereafter. 40 C.F.R. § 51.308(b), (f); *see also* 42 U.S.C. § 7491(b)(2)(B). The Regional Haze Rule specifically articulates the requirement that “all necessary emission reductions take place during the period of the first long-term strategy for regional haze” for BART Alternatives, which is the same time period as the requirement for installation of BART. 40 C.F.R. § 51.308(e)(2)(iii). This requirement is proved by “including schedules for implementation.” *Id.*

EPA has consistently required that BART be installed and implemented before the end of the first planning period. As EPA explained for its Wyoming FIP:

[T]he statute explicitly calls for a program of reductions over time, and incremental reasonable progress towards the long-term goal. The requirement for states to implement BART applies during the first planning period ending in 2018 and is the first increment of progress.

79 Fed. Reg. 5032, 5170; *see also id.* at 5055 (rejecting claims that requiring BART reductions to occur within the first planning period was “front-loading” the reasonable progress requirements). In SIP actions for both Maine and Arizona, EPA again indicated that BART requirements must be implemented during the first implementation period. *See* 78 Fed. Reg. 8083, 8085 (Arizona SIP disapproval) (“During the first implementation period for the Regional Haze Program (through 2018), states must also impose best available retrofit technology (‘BART’) on ‘BART-eligible sources’”); 77 Fed. Reg. 24385, 24387 (Maine SIP approval) (“States must determine BART eligibility and controls only during this first planning period”). EPA has definitively stated that the first regional haze planning period for Utah ends in 2018. 77 Fed. Reg. 28825, 28838 (May 16, 2012) (when reviewing a previously submitted BART Alternative, EPA said: “The first planning period ends in 2018”); 77 Fed. Reg. 74355, 74368 (Dec. 14, 2012) (“Nor, at this time, are such emissions increases expected during the first planning period (2003-2018).”).

However, despite its own requirements, consistent practice, and specific statements about Utah’s first planning period ending in 2018, EPA’s BART FIP for Utah does not require installation of SCR until 2021, three years after the end of the first planning period. 81 Fed. Reg. at 43924 (40 C.F.R. § 52.2336(d)) (establishing compliance dates of 2021). While EPA may argue that its belated FIP BART requirements resulted from the late disapproval of Utah’s SIP, it is actually EPA’s failure

to act on Utah's 2008 SIP (which contained BART for NO_x) that accounts for this delay.⁷ Because EPA's delay contributed to the late FIP, and because the FIP's BART timing requirement is inconsistent with the CAA and EPA's consistent practices, the FIP is invalid. PacifiCorp is likely to prevail on the merits on this issue.

EPA is aware that, although BART controls can be required on eligible units only during the first regional haze planning period, emission sources like the Utah BART Units will be subject to ongoing regulation under regional haze requirements. In other words, the State of Utah surely will visit again in future planning periods whether or not NO_x controls such as SCR systems are appropriate at the Utah BART Units. 81 Fed. Reg. 26942, 26947 (May 4, 2016).

III.A.7. EPA improperly rejected Utah's "annual emissions comparison."

Utah found that the "combined emissions of three key visibility-impairing pollutants will be lower under the BART Alternative scenario and that this supported the weight of evidence determination that the BART Alternative will provide greater reasonable progress than BART." 81 Fed. Reg. at 43898. EPA found that, although this metric "is a relevant concept," in this instance the metric is "inconclusive," and Utah could not offset minor NO_x emissions increases with substantial SO₂ and PM emissions reductions because of "differences in visibility impacts and complex interactions between pollutants." *Id.*

EPA's actions ignore the substantial data already before the agency regarding the impact of SO₂ and PM emissions on visibility. A commission established by the CAA to study the Colorado Plateau, where all the Class I areas affected by the Utah BART Units are located, determined that sulfates (produced by SO₂ emissions) are the most significant anthropogenic pollutant contributing to the haze on the Colorado Plateau. *See* Grand Canyon Visibility Transport Commission, Recommendations for Improving Western Vistas (June 10, 1996) at 33 ("GCVTC Report") (recommending near- and long-term focus on SO₂ to ensure reasonable progress); *see also* 40 C.F.R. § 51.309.⁸ The WRAP the successor to the GCVTC, provides regular reports to EPA on reasonable progress for Class I areas impacted by Utah. Some of these reports are included in the record for the Utah RH SIP. *See, e.g.,* WRAP Regional Haze Rule Reasonable Progress Report Support Document, State and Class I Area Summaries, at 6-11 through 6-16 (Doc. No. EPA-R08-OAR-2015-0463-0200) ("WRAP Report"). The WRAP Report includes analyses of the relative visibility impacts by pollutant (expressed as "aerosol extinction") at the affected

⁷ Given the planning, engineering, procurement, and construction necessary to construct simultaneously four SCRs, not to mention the need to locate and obtain reasonably priced electricity to replace that produced by the Hunter and Huntington power plants during construction shut-downs, the four SCRs required by EPA's FIP cannot reasonably be constructed prior to the end of 2018.

⁸ As a result of this and other information, there has been a concerted focus on anthropogenic SO₂ emissions as the leading impairment to visibility for Class I areas on the Colorado Plateau. *See, e.g.,* 77 Fed. Reg. 73926 (approval of Wyoming SIP with focus on SO₂ reductions); 77 Fed. Reg. 74355 (approval of Utah SIP with focus on SO₂ reductions); 77 Fed. Reg. 30953 (approval of New Mexico SIP with focus on SO₂ reductions).

Class I areas. The WRAP Report documents, for example, that ammonium sulfate (produced by SO₂ emissions combining with ammonia) accounted for 21% of the visibility impacts on the most impaired days at Zions Canyon, while ammonium nitrate (produced by NO_x emissions combining with ammonia) accounted for only 7%, from 2005-2009. Canyonlands shows a similar ratio, with 23% impacts from ammonium sulfate compared to 14% from ammonium nitrate. *Id.* at 6-11. This information clearly establishes that SO₂ emissions reductions will have as much, or even greater, impacts on visibility than NO_x emissions reductions.

Similarly, Progress Reports submitted to EPA every five years from the State further validate the WRAP findings. *See, e.g.,* Utah Div. of Air Quality, Progress Report for Utah's State Implementation Plan for Regional Haze, May 18, 2015 at F-26 through F-28 ("For all sites, ammonium sulfate was the largest contributor to the non-Rayleigh aerosol species of extinction."). For Zions Canyon, ammonium sulfate accounted for 21% of visibility impairment for 2009-2013, while ammonium nitrate accounted for only 7%. *Id.* at F-27. EPA almost concedes the existence of this data in the Proposed Rule:

[W]e propose to concur with Utah's finding that SO₂ emissions reductions should provide visibility benefits in all seasons and that sulfate is the largest contributor to visibility impairment at the affected Class I areas. Furthermore, we propose to find that these observations suggest that the BART Alternative is likely to achieve greater reasonable progress.

81 Fed. Reg. at 2022. In the Final Rule, EPA agrees with the State that "sulfate is the largest contributor to visibility impairment at the affected Class I areas." 81 Fed. Reg. at 43900.

Because the State reasonably exercised its discretion and supported its decision with adequate documentation, the burden is on EPA to show that State's decision does not meet an applicable requirement. *See United States v. Minnkota Power Coop.*, 831 F. Supp. 2d 1109, 1121 (D. N.D. 2011) (placing burden on EPA to show state permitting decision is "unreasonable, arbitrary, or capricious"). With all of the available information showing the greater visibility impacts of SO₂ emissions as compared to NO_x emissions, EPA's claim that it lacked "information on the likely visibility impacts of the State's alternative program as compared to BART," 81 Fed. Reg. at 43897, is simply false and another contrived effort to support a particular result (SCR) when the BART Alternative shows greater reasonable progress. Even if the State had not provided such extensive analysis (which it did), EPA "retains a duty to examine key assumptions as part of its affirmative burden of promulgating and explaining a non-arbitrary, non-capricious rule." *Appalachian Power Co. v. EPA*, 135 F.3d 791, 818 (D.C. Cir. 1998). This burden is heightened when EPA's decision "runs counter to the evidence before the agency." *United States Sugar Corp. v. EPA*, No. 11-1108, 2016 WL 4056404, at *51 (D.C. Cir. July 29, 2016) (quoting *Motor Veh. Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983)). EPA's reliance on a lack of modeling data does not meet its burden. *See* 81 Fed. Reg. at 43898. EPA's determination that the "annual emissions comparison" metric is "inconclusive" based on an alleged lack of data about the impact of SO₂ emissions on visibility (as compared to NO_x emissions), is incorrect, unsupportable, and

contrary to both the State's determination and the enormous amounts of data in the possession of EPA. This is yet another reason PacifiCorp will prevail on the merits.

III.A.8. EPA arbitrarily changed its position in the Final Rule by improperly analyzing the impact of pre-FIP deadline emission reductions and resulting visibility improvements.

EPA illegally ignored data in the record and public comments about emissions reductions under the BART Alternative that occur before the BART installation deadline in EPA's FIP (sometimes referred to as "early" reductions in the record), and improperly changed its position between the Proposed and Final Rule about which of these reductions under the BART Alternative qualified for consideration in the reasonable progress analysis. In the Proposed Rule, EPA stated:

[R]eductions under the Utah BART Alternative will occur earlier than the BART Benchmark. The reductions under the Utah BART Alternative are required under the State SIP by August 2015 . . . and would provide an **early and on-going visibility benefit** as compared to BART. . . . BART likely would be fully implemented sometime between 2019 and 2021. Therefore, we recognize that the reductions from the BART Alternative would occur before the BART Benchmark.

81 Fed. Reg. at 2030 (emphasis added); *see also id.* at 2018 and 2023. On both sides of its Proposed Rule to potentially approve and disapprove the BART Alternative, EPA recognized "early and ongoing" emission reductions resulting under, and supporting the adoption of, the BART Alternative.⁹ These pre-FIP deadline emissions reductions included those from LNB/SOFA installations on all four Utah BART Units (as required by the Utah RH SIP), LNB/SOFA on an additional non-BART unit (Hunter Unit 3), and the shutdown of the two units at the Carbon plant. 81 Fed. Reg. at 2018.

However, in the Final Rule, EPA backtracked as follows:

[W]e have decided to consider only those emission reductions that occurred between 2006 and 2011 as lending weight to the argument that the Alternative will provide for greater reasonable progress.

RH RTC at 138. This means that between the Proposed Rule and the Final Rule, EPA decided to ignore the pre-FIP deadline emission reductions from the LNB/SOFA

⁹ As EPA explained when approving a previous Utah BART Alternative, early emission reductions weigh in favor of the BART Alternative when a "state implementation plan submittal may have already influenced sources to upgrade their plants before any case-by-case BART determination . . . may have required it." *WildEarth Guardians v. EPA*, 770 F.3d 919, 937 (10th Cir. 2014) (quoting EPA). EPA also has taken early emission reductions into account for other BART Alternatives. *See, e.g.*, 79 Fed. Reg. 46514 (using early emission reductions as justification for a BART Alternative FIP for the Navajo Nation); 77 Fed. Reg. 34801, 34804 (acknowledging early emission reductions made by Minnesota (Metropolitan Emission Reduction Program) to approve its proposed BART Alternative of the Cross State Air Pollution Rule).

installation at one of the Utah BART Units as well as those from the shutdown of the Carbon plant, even though it considered such reductions under all aspects of its Proposed Rule. Moreover, EPA further ignored all pre-FIP deadline emissions reductions already generated, and to be generated, under the BART Alternative between 2011 and 2021 (the BART installation date for the SCR systems under EPA's FIP). As a result, EPA purposely excludes hundreds of thousands of tons of emission reductions – and the resulting visibility benefits – achieved before the 2021 FIP compliance date.

EPA was fully aware of these reductions. In its public comment letter, PacifiCorp reported that 340,000 tons of emission reductions had occurred under the BART Alternative through 2014, and estimated that an additional 235,000 tons of added emissions reductions would occur through 2021, the FIP compliance deadline. RH RTC at 136-137 (*see* figure at 137). Contrary to EPA's decision to sweep some of these pre-FIP deadline emission reductions under the proverbial carpet for purposes of evaluating the BART Alternative, all of these emission reductions actually have occurred, or will occur based on currently installed controls and current unit closures, before emission reductions from BART would take place. This clearly means that all – not just some – of the pre-FIP deadline emission reductions should have been considered by EPA in evaluating the BART Alternative. *See* PacifiCorp Comments on Proposed Rule, March 14, 2016, Cover Letter/Executive Summary at 2; Full Comments at 16, 23. Not only did EPA fail to consider these reductions, EPA could not even bring itself to make its refusal clear in the Federal Register, only admitting the specifics in the RH RTC. EPA's refusal to consider all pre-FIP deadline emissions reductions is arbitrary and capricious because it failed to consider an "important aspect of the problem," and because its decision "runs counter to the evidence before the agency." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983).

In the RH RTC, EPA incorrectly claims that Utah only considered pre-FIP deadline emissions reductions through 2011 so that EPA is only required to do the same. RH RTC at 138. EPA, however, considers an isolated statement by Utah out of context. Both Utah and PacifiCorp provided EPA with information indicating that the pre-FIP deadline emissions commenced in 2006 and would provide "a corresponding early and on-going visibility improvement" until the BART compliance deadline, which EPA set in the FIP as 2021. Utah Staff Report at 1-13. *See also* PacifiCorp Comments on Proposed Rule, March 14, 2016, Cover Letter/Executive Summary at 2; Full Comments at 16, 23. Moreover, Utah clearly relied on the pre-FIP deadline emissions reductions from Carbon (2015 and beyond) and LNB/SOFA installed at Hunter 1 in 2014 when assessing other metrics (such as aggregate emissions reductions, etc.). *See* Staff Report at 1-12, Table 2 (projecting pre-FIP deadline emissions after 2011); and 1-30 (a full section outlining pre-FIP deadline emission reductions, including reductions after 2011). EPA's attempt to artificially limit the pre-FIP deadline reductions that Utah not only considered but relied upon infringes on Utah's statutory role to make value judgments when determining BART, and by extension a BART Alternative. Because EPA is overturning a state determination, its obligation to consider all of the information supporting that determination is high. *See* 42 U.S.C. § 7410(k)(3); *Texas v. EPA*, No. 16-60118 at *1 ("The structure of the Clean Air Act indicates a congressional preference that states, not EPA, drive the regulatory process."); *Minnkota Power Coop.*, 831 F. Supp. 2d at 1121

(D. N.D. 2011) (reversing EPA’s disapproval of a state CAA determination and holding that “[the State’s] conclusions regarding such highly technical matters are entitled to deference unless EPA proves them to be unreasonable, arbitrary, or capricious”).

In the end, EPA explained in the RH RTC that its decision not to consider hundreds of thousands of tons of pre-FIP deadline emission reductions caused it to give only “some weight to this metric but [to] not consider the timing of these reductions to be compelling.” RH RTC at 138. This pivotal announcement shifts consideration of the full effect of emission reductions occurring from 2006-2021 to a more limited effect from only those reductions that took place from 2006-2011. This is dramatic discounting of a key metric supporting the BART Alternative. *See id.* Again, because the decision to disapprove the BART Alternative was such a “close call,” any additional piece of favorable evidence should tip the balance towards approval of the Alternative. Because EPA purposefully refused to consider all evidence before the agency regarding pre-FIP deadline emissions reductions, EPA acted arbitrarily and capriciously; as a result, PacifiCorp will likely prevail on the merits.

III.A.9. EPA failed to adjust its FIP BART analysis after acknowledging a cost error of more than \$80 million in the Final Rule.

EPA’s admitted error of more than \$80 million (\$20 million per unit) in its required SCR cost analysis renders its BART decision arbitrary.¹⁰ Although ultimately acknowledging that the error existed in the Proposed Rule and that EPA relied upon the erroneous numbers to find SCR is cost-effective control equipment, EPA declines to conduct additional analysis to account or adjust for the error:

[W]e revised our analysis of the cost of installing and operating NO_x BART controls at the four subject-to-BART EGUs. . . . [W]e concluded it was unnecessary to review our analysis of visibility improvement or the other statutory BART factors. Our proposed action contains a full description of the five step BART analysis, the five BART factors [which include statutorily required cost analysis], and our proposed BART determination.

81 Fed. Reg. at 43902. The error impacts not only the assumed total capital costs for SCR, but also significantly increases the incremental cost-effectiveness for each unit by more than 20 percent. *See, e.g.*, 81 Fed. Reg. at 43904 (increasing incremental cost-effectiveness per ton for Huntington Unit 2 from \$4,877/ton in the Proposed Rule to \$6,368/ton (an additional \$1,132/ton), 81 Fed. Reg. at 2048, Table 36). Because these cost increases are expressed in dollars per ton, they represent millions of dollars in increased costs.

¹⁰ Compare, *e.g.*, total capital costs from the Final Rule, 81 Fed. Reg. at 43903, Table 1 with the Proposed Rule, 81 Fed. Reg. at 2035, Table 14 (total capital investment for LNB/SOFA/SCR). Compare also Proposed Rule, 81 Fed. Reg. at 2039, Table 20; at 2042, Table 26; and at 2046, Table 32. Note also that several million dollars in total annual costs are also added for each unit in the Final Rule.

Contrary to its actions in the Final Rule, EPA may not simply forego an analysis of whether more than \$80 million in new costs would impact the appropriateness of SCR as BART. This increase in capital costs substantially increased both the average and incremental cost-effectiveness of each unit. These substantial increases changed the reasonableness of whether such controls should be required, and thus the changed figures should have been subject to public notice and comment.

While courts give EPA deference in matters subject to its expertise, they have also explained that “[w]e are hesitant to rubber-stamp EPA’s invocation of statistics without some explanation of the underlying principles or reasons why its formulas would produce an accurate result, particularly when the ‘facts found’ . . . demonstrate flaws in the formula.” *Nat’l Ass’n of Clean Water Agencies v. EPA*, 734 F.3d 1115, 1145 (D.C. Cir. 2013). EPA’s revised and much larger cost-effectiveness numbers, as well as much larger capital costs, should have caused EPA to seek public comment on the “reasonableness” of requiring such expensive controls, and to reject SCR as BART. PacifiCorp is likely to prevail on the merits of this issue.

III.B. PacifiCorp and Its Customers Will Suffer Irreparable Harm Without a Stay.

The compliance deadlines established in the Final Rule for installation of SCR place PacifiCorp in an untenable position. The installation of SCR at four units will be a massive construction effort requiring extensive planning, long-lead time engineering, and logistical coordination that will begin years before project completion and take several years to complete. PacifiCorp’s estimated cost of SCR construction and installation at the four Utah BART Units is in excess of \$700 million,¹¹ with a resultant increase in annual Operating & Maintenance costs in excess of \$150 million per year.

No mechanism exists for PacifiCorp to recover from EPA the SCR development costs incurred if the Final Rule is found to be invalid. *See Crowe & Dunlevy, P.C. v. Stidham*, 640 F.3d 1140, 1157 (10th Cir. 2011) (“Imposition of money damages that cannot later be recovered for reasons such as sovereign immunity constitutes irreparable injury.”) (citations omitted). Therefore, such SCR development costs constitute “irreparable injury.”

Finally, these SCR development costs are expected to be passed on to PacifiCorp’s customers in the form of higher electricity rates, as EPA admits. In the rulemaking docket, EPA provides an estimate (utilizing its estimated costs, which are lower than expected by PacifiCorp) that installation of SCR at the Utah BART Units will result in 5-10% higher electricity rates for PacifiCorp customers. RH RTC at 370. Higher electricity rates could have an even broader adverse economic impact on the citizens of Utah, as businesses look to pass their higher costs through to their customers. Financial losses have been found to constitute irreparable injury “where no adequate compensatory or other corrective relief will be available at a later date, in the ordinary course of litigation.” *Mexichem Specialty Resins, Inc. v. EPA*, 787 F.3d 555 (D.C. Cir.

¹¹ EPA claims costs of \$517 million.

2015) (citations omitted). In addition, consideration of rate increases caused by EPA-mandated control equipment was one of several factors found to support the recent stay of a Regional Haze FIP in Texas. *See Texas v. EPA*, No. 16-60118 at *18, notes 40-42.¹²

Thus, irreparable harm will result from continuation of the current effective date for EPA's FIP for the Utah BART Units.

III.C. The Balance of the Equities and the Public Interest Tip in PacifiCorp's Favor.

Neither EPA nor the regional haze program's overarching "visibility goals" will suffer any irreparable harm from a stay. Congress identified the purpose of the regional haze program as setting and achieving goals to achieve "natural visibility conditions by the year 2064." *See* 40 C.F.R. § 51.308(d)(1)(i)(B). Even if EPA's FIP for NO_x BART is ultimately upheld, Utah is ahead of its reasonable progress goals, without imposition of the FIP. *See, e.g.*, Utah Div. of Air Quality, Progress Report for Utah's State Implementation Plan for Regional Haze (May 18, 2015) at F10-F11, F-62 ("Utah Progress Report"). As established by the most recent data in Utah's 5-year progress report to EPA, Utah is meeting and surpassing its long-term visibility goals for all Class I areas in Utah. Utah Progress Report at F10-F11. Further, Utah reported that "the State of Utah has determined that the current implementation plan elements and strategies are sufficient . . . to meet all established reasonable progress goals." *Id.* at F-62. The SIP referred to in the State's progress report did not include EPA's FIP SCR requirement.

Moreover, EPA has already admitted that Utah is making reasonable progress towards the applicable Clean Air Act requirements. 77 Fed. Reg. at 74367 (Dec. 14, 2012) ("the State [of Utah] met all reasonable progress requirements for the Class I areas in Utah"). Granting a stay does not impede visibility improvement because the Utah BART Alternative already is in place. Moreover, EPA does not even require the emissions reductions under its FIP until 2021. In the meantime, the status quo continues, with Utah's reasonable progress goals being exceeded. *See* Final Rule at 43924/40 C.F.R. § 52.2336(d)(1) (setting an August 4, 2021 compliance deadline for installation of SCR on the Utah BART Units).

Utah's regional haze SIP and its permits for PacifiCorp's facilities have required action to reduce emissions earlier than EPA's FIP. 81 Fed. Reg. at 2030 ("The reductions under the Utah BART Alternative are required . . . by August 2015 . . . and would provide an early and on-going visibility benefit"); 77 Fed. Reg. at 74367-68 (EPA has found that Utah "met all reasonable progress requirements for the Class I areas in Utah" and the "two BART-eligible plants in central Utah are projected to decrease SO₂ emissions by 13,200 tons and NO_x emissions by 6,200 tons between 2002 and 2018. The State also shows that in general the impact from sources in Utah is not significant" at Class I areas in neighboring states.). Many of the visibility benefits from the BART

¹² *See also* EPA-cited FIPs for Hawaii (77 FR 61478, 61488 (Oct. 9, 2012)); Navajo Nation (77 FR 51620, 51625-51626 (Aug. 24, 2012)); and Arizona Apache Generating Station (77 FR 72512 (Dec. 5, 2012)), which EPA claims were situations where consideration of rate increases was an appropriate part of its BART analysis. RH RTC at 370, note 576.

Alternative are already being realized under Utah law, including the emission reductions from new control equipment and the shutdown of the Carbon plant (which were not contemplated when EPA made these statements). Thus even under a stay of EPA's FIP, the relevant Class I areas are still benefiting from these pre-FIP deadline emissions reductions required by the State's proposed RH SIP. This ensures that the Congressional objective for visibility improvement will not be inhibited even if EPA's FIP BART for NO_x is delayed or vacated.

An additional matter of public interest favoring a stay is the concentrated nature of employment impacts related to the Utah BART Units. In addition to higher costs of electricity for consumers, the compliance costs for the FIP may lead to the closure of facilities if PacifiCorp determines that the increased compliance costs do not justify continued operation of one or more units. The decision to shut units down or change to natural gas rather than install SCR has been a common result of EPA FIPs requiring SCR installation. *See, e.g., Arizona Apache Plant*, 80 Fed Reg 19220 (Feb. 27, 2015) (originally requiring SCR through an EPA FIP but changing to natural gas in subsequent SIP revision); *Arizona Cholla Plant*, 81 Fed Reg 46852 (July 19, 2016) (same); *Oregon Boardman Plant*, 76 Fed. Reg. 38997 (July 5, 2011) (requiring SCR in original state submittal to EPA but replacing with BART Alternative that requires cessation of burning coal by 2020 and only LNB/modified OFA). Because the Utah BART Units are all located within a nexus of small rural communities, the employment impacts from closure of even one unit will be significant for those communities. Emery County has been designated as a "Mining Dependent" county by the Department of Agriculture. USDA, Economic Research Service, *County Typology 2015*, *available at* <http://www.ers.usda.gov/data-products/county-typology-codes.aspx>. As stated by a local county commissioner, "The economic impact of the Hunter and Huntington Power Plants is a large portion of our economy in Emery County. The economic impact Rocky Mountain Power has had to Emery County in direct and indirect is 800+ jobs." *Part I: Commissioner Brady speaks at EPA hearing on regional haze*, Emery County Progress, Feb. 2, 2016.

Importantly, the Regional Haze Statute and the Regional Haze Rule do not address matters of public health. *See, Texas v. EPA*, 2016 WL 3878180 at *19, note 42 (finding public health benefits are not relevant to a stay consideration). Instead, the purpose of the regional haze program is to remedy anthropogenic contributions to visibility impairment in Class I areas. *See* 42 U.S.C. § 7491(a)(1). Thus, delaying the effective date of the Utah RH FIP is not related to public health. The area where the Utah BART Units are located is attaining the National Ambient Air Quality Standards for all criteria pollutants. Impacts from a stay would not present the type of risks to justify compelling immediate capital projects of inordinate cost that will disrupt the State's economy and PacifiCorp's electric generating operations with little or no visibility benefits. *See, e.g., Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1364 (Fed. Cir. 2002).

IV. Conclusion

If a stay is not entered, PacifiCorp will be forced to begin the planning, engineering and construction processes for SCR at the four Utah BART Units at significant cost. The actual costs of installing and operating SCR at the four units will approach one billion dollars, while EPA's projected improvement in visibility will be imperceptible at best, and actually lower than Utah's proposed BART Alternative. On the other hand, granting PacifiCorp's stay request will have no negative consequences on visibility while allowing well-justified further consideration of the Final Rule.

Based on the foregoing, EPA should grant PacifiCorp's Request for Reconsideration and Request for Administrative Stay.

Sincerely,



William K. Lawson
Director, Environmental Services
PacifiCorp
1407 W. North Temple
Salt Lake City, Utah 84116

cc: Blaine Rawson
Mike Jenkins

Exhibit D
PacifiCorp v. EPA, Consolidated Case Nos. 16-
9541, 16-9542, 16-9543, 16-9545

Declaration of Chad Teply

IN THE UNITED STATES COURT OF APPEALS
FOR THE TENTH CIRCUIT

PACIFICORP,

Petitioner,

v.

UNITED STATES

ENVIRONMENTAL PROTECTION

AGENCY, and GINA MCCARTHY

Administrator, United States

Environmental Protection Agency,

Respondents.

Case No. 16-9542

DECLARATION OF CHAD TEPLY

I, Chad Teply, having been first duly sworn upon my oath, declare and state as follows:

1. My name is Chad Teply and I am Vice President of Strategy and Development at PacifiCorp (“PacifiCorp”). I am over the age of 18 and am competent to testify concerning the matters in this declaration. I make this declaration based on my personal knowledge and information gathered and provided to me by PacifiCorp personnel.

2. I hold a Bachelor of Science degree in mechanical engineering from South Dakota State University. I have 17 years of experience in the utility industry. I joined MidAmerican Energy Company, a Berkshire Hathaway Energy Holdings

company, in November 1999 and held positions of increasing responsibility within its power generation organization. In April 2008, I moved to Northern Natural Gas Company as senior director of engineering. In February 2009, I joined PacifiCorp as Vice President of Resource Development and Construction. My current responsibilities for PacifiCorp encompass strategic planning, stakeholder engagement, resource development, and construction services.

3. In my current position, I have among my responsibilities the development and execution of major environmental compliance projects.

4. This declaration is submitted in support of Petitioner PacifiCorp's Motion for Stay of the United States Environmental Protection Agency's ("EPA") regional haze rulemaking affecting PacifiCorp's coal-fired power plants in Utah, entitled "Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze; Final Rule." 81 Fed. Reg. 43894 (July 5, 2016) ("Final Rule"). The Final Rule disapproved key portions of Utah's regional haze state implementation plan ("RH SIP") and replaced it with a significantly more expensive and minimally effective federal implementation plan ("RH FIP"), which requires the installation of selective catalytic reduction ("SCR") systems to control nitrogen oxide (NO_x) emissions at each of the Utah BART Units. Specifically, the Motion for Stay seeks to enjoin these NO_x-related

requirements of the RH FIP.

5. PacifiCorp owns, in majority or whole, and operates two power plants in Utah, with two units at each plant that are subject to Best Available Retrofit Technology (“BART”) requirements under the Clean Air Act.

6. The Hunter power plant is located in Castle Dale, Utah, and contains three coal-fired units. Units 1 and 2 are both BART-eligible, while Unit 3 is not subject to BART requirements. The Hunter power plant has a generating capability of approximately 1360 net megawatts (“MW”). Deseret Generation & Transmission Cooperative, Utah Associated Municipal Power Systems, and Utah Municipal Power Agency are co-owners of, and pay their share to receive a portion of, the electrical output from certain affected units at the Hunter power plant.

7. The Huntington power plant is located near Huntington, Utah, and contains two coal-fired units. Units 1 and 2 are both BART-eligible. The Huntington power plant has a generating capability of approximately 910 net MW. PacifiCorp is the owner and operator of both units at the Huntington power plant.

8. Hunter Units 1 and 2 and Huntington Units 1 and 2 are collectively referred to as the “Utah BART Units” in this declaration. PacifiCorp is also the owner of the Carbon power plant in Utah, which was closed in 2015. The Utah BART Units are the only sources in the state that Utah and the EPA have determined to be subject to the Clean Air Act’s BART requirements.

9. The electrical capacity and energy produced by the Utah BART Units

helps serve the needs of PacifiCorp's 1.8 million customers in six western states. The Utah BART Units are an integral and essential power generation resource for the customers of PacifiCorp as well as Deseret Generation & Transmission Cooperative, Utah Associated Municipal Power Systems, and Utah Municipal Power Agency.

10. The Utah BART Units directly employ approximately 370 Rocky Mountain Power personnel, and contribute approximately \$7.9 million annually in property taxes to the state of Utah.

11. The Utah BART Units have been regulated by the regional haze program for years. In the early and mid-2000s, PacifiCorp worked cooperatively with the State of Utah to develop an effective RH SIP. The State of Utah submitted a RH SIP revision to EPA in September of 2008 with NO_x BART determinations for the Utah BART Units ("2008 RH SIP"). The 2008 RH SIP explicitly rejected the installation of selective catalytic reduction ("SCR") as NO_x BART for the Utah BART Units because the excessive cost was not justified by the visibility benefits. Instead, Utah found that low NO_x burners and separated over-fire air ("LNB/SOFA" or "2008 BART Controls") were the appropriate controls to constitute NO_x BART. EPA did not act within the statutory deadlines to approve or disapprove the 2008 RH SIP submission.

12. Because the 2008 RH SIP became Utah law in 2008, PacifiCorp was legally required to install the NO_x BART of LNB/SOFA at the Utah BART Units, even though EPA had not acted to approve or disapprove the 2008 RH SIP.

13. Through proactive planning, PacifiCorp began to install LNB/SOFA at the Utah BART Units in 2006 and completed the installations in 2014, as required by the 2008 RH SIP. The total cost of the LNB/SOFA installations for all four of the units was approximately \$40 million. Installation of the LNB/SOFA systems reduced NO_x emissions as required by the 2008 RH SIP. In fact, the installation of LNB/SOFA from 2006 - 2014 has reduced total NO_x emissions by approximately 11,000 tons annually from the four Utah BART Units.

14. The 2008 RH SIP also required the installation of equipment to reduce particulate matter ("PM") and sulfur dioxide ("SO₂") emissions. PacifiCorp installed this equipment at the Utah BART Units during the same 2006 - 2014 timeframe at the total cost of approximately \$515 million and resulting in the reduction of approximately 12,700 annual tons of SO₂ emissions.

15. EPA eventually got around to considering the 2008 RH SIP at the end of 2012 – years after it was statutorily required to act and after PacifiCorp already had installed all of the equipment, with the exception of Hunter Unit 1 retrofits completed in 2014, required by the 2008 RH SIP. Acting to meet a new deadline set by a consent decree negotiated with WildEarth Guardians, EPA disapproved the State's BART determinations under the 2008 RH SIP for NO_x and PM, while it approved an SO₂ BART Alternative (often referred to as "the SO₂ backstop trading program"). 77 Fed. Reg. 74355 (Dec. 14, 2012). EPA did not issue a FIP at that time for the disapproved portions of the 2008 RH SIP.

16. In 2015, Utah submitted a revised RH SIP – at the request of EPA – proposing a BART Alternative for NO_x (“2015 RH SIP Revision”). The 2015 RH SIP Revision included a BART Alternative for NO_x that required the same NO_x emission reductions included in the 2008 RH SIP, as well as additional NO_x emission reductions at three Utah non-BART Units: (i) Hunter Unit 3; (ii) Carbon Unit 1; and (ii) Carbon Unit 2. The 2015 RH SIP Revision also required further emission reductions for PM and SO₂.

17. In fact requiring emission reductions from these three Utah non-BART Units has resulted in the additional reduction of approximately 4,900 tons of NO_x emissions each year, as well as the reduction of approximately 8,000 tons of SO₂ and approximately 570 tons of PM emissions, all of which are projected to continue into the future. The submission also provided an updated BART determination for PM for the Utah BART Units. In approving the 2015 RH SIP Revision, the State of Utah found that its plan resulted in greater reasonable progress in satisfaction of regional haze requirements than would be achieved by the installation of SCR at the Utah BART Units.

18. Again at EPA’s request, Utah submitted an additional RH SIP revision on October 20, 2015, with transparency measures to ensure that the SO₂ emission reductions for the BART Alternative were accurately accounted for. EPA requested this additional RH SIP revision so that a potential obstacle to approval of the BART Alternative – fears that SO₂ emission reductions under the BART Alternative might

be double counted – would be removed.

19. In response, EPA issued a bifurcated proposed rule, where EPA found Utah's weight-of-evidence analysis for the BART Alternative simultaneously to be both adequate and inadequate to meet the requirements of the Clean Air Act. EPA, Utah RH SIP Proposed Rule, 81 Fed. Reg. 2004 (Jan. 14, 2016) ("Proposed Rule").

20. EPA then subsequently disapproved the BART Alternative portion of the RH SIP in the Final Rule on July 5, 2016. *See, e.g.*, 81 Fed. Reg. 43894, 43909, 43911-12. In place of the State of Utah's BART Alternative, EPA imposed a RH FIP that required SCR as the NO_x BART—an option Utah had previously twice considered but rejected. *Id.* at 43921.

21. EPA's RH FIP requires the Utah BART Units to install four SCRs (one on each unit) by August of 2021, and imposes a NO_x emission limit of 0.07 lb/MMBtu (30-day rolling average). 40 C.F.R. § 52.2336(c). PacifiCorp has projected that installation of four SCRs at the Utah BART Units will cost in excess of \$700 million, with an additional increase in annual operating and maintenance costs of approximately \$6 million per year (which does not include the millions needed every four years for SCR catalyst replacement). This is in addition to the approximately \$500 million PacifiCorp already has spent to install NO_x, PM, and SO₂ emissions control equipment at the Utah BART Units since 2006.

22. PacifiCorp has asked EPA to reconsider and stay the Final Rule as it pertains to NO_x BART for the Utah BART Units, but EPA did not respond. The

installation of the four SCRs at the Utah BART Units in the short timeframe defined by the RH FIP requires a series of massive construction projects involving extensive planning and logistical coordination. To effectuate timely compliance, project analysis and development activities and associated expenditures already have begun.

23. PacifiCorp and the Utah BART Unit co-owners expect to spend approximately \$200,000 on analysis and development of the four SCRs by the end of 2016, with projections in excess of \$2 million to be spent in 2017 to maintain prescribed implementation schedules. Expenditures through 2021 are contingent upon the RH FIP being upheld and the projects being determined to be economically justified for customers, but would require a significant ramp up in costs, with total expenditures estimated to be in excess of \$700 million by the completion of the FIP-required SCR installations at the four Utah BART Units.

24. EPA has promulgated RH FIPs, and approved RH SIPs, for the states of Arizona, Colorado, Montana and Wyoming that also require PacifiCorp to install emissions control retrofits at other BART Units wholly or partially owned by PacifiCorp. The emissions control retrofit projects required by these other RH FIPs and SIPs have already been installed at several of PacifiCorp's affected units, and are projected to cost PacifiCorp in excess of \$1.3 billion from 2005 through 2016.

25. To effectively serve its customers, PacifiCorp currently dispatches the output of the Utah BART Units as base load serving resources in response to the demands of the bulk electric system. Beyond the initial cost, the FIP-required SCR

installations will negatively impact the efficiency of the unit per kilowatt-hour produced and raise the operating costs of each of the Utah BART Units.

26. The compliance costs for the RH FIP may lead to the closure of facilities if PacifiCorp determines that the increased compliance costs do not justify continued operation of one or more units. The decision to shut units down or change to natural gas as a fuel source rather than install SCR has been a common result of EPA FIPs requiring SCR installation. *See, e.g., Arizona Apache Plant*, 80 Fed Reg 19220 (Feb. 27, 2015) (originally requiring SCR through an EPA FIP but changing the plant to natural gas in subsequent SIP revision); *Arizona Cholla Plant*, 81 Fed Reg 46852 (July 19, 2016) (closure of units and/or conversion to gas); *Oregon Boardman Plant*, 76 Fed. Reg. 38997 (July 5, 2011) (requiring SCR in original state submittal to EPA but replacing with BART Alternative that requires cessation of burning coal by 2020 and only LNB/modified OFA).

27. PacifiCorp has sought an administrative stay and reconsideration of the Final Rule from EPA, but to date, EPA has taken no action on this request. Any stay from the Tenth Circuit Court of Appeals would need to be a day-for-day extension of the compliance deadline identified in the RH FIP, since analysis, development, regulatory review, procurement, and construction of the FIP-required SCR installations would require, at a minimum, the full time period allowed under the RH FIP.

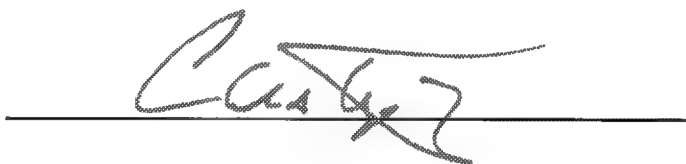
28. Given the extensive processes (including engineering, permitting,

regulatory review, competitive procurement, contracting, and construction) necessary to simultaneously construct four SCRs, the four SCRs required by EPA's FIP cannot practicably be constructed prior to mid-year 2018 (the end of the first regional haze planning period and BART deadline).

I, Chad Teply, make the following declaration regarding the veracity of my statements herein:

I declare under penalty of perjury that the foregoing is true and correct to the extent of my personal knowledge and otherwise reflects information gathered and provided to me by PacifiCorp personnel and other sources.

Executed this 28th day of October, 2016.



CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing **DECLARATION OF CHAD TEPLY** with the Clerk of the Court for the United States Court of Appeals for the Tenth Circuit by using the appellate CM/ECF system on this 28th day of October, 2016.

/s/ E. Blaine Rawson

E. Blaine Rawson
Ray Quinney & Nebeker P.C.
36 South State Street, Suite 1400
Salt Lake City, UT 84111
brawson@rqn.com
(801) 532-1500

Michael G. Jenkins
Assistant General Counsel
PacifiCorp Energy
1407 North Temple, Suite 310
Salt Lake City, Utah 84116
michael.jenkins@pacificorp.com
(801) 220-2233

Attorneys for PacifiCorp

CERTIFICATE OF DIGITAL SUBMISSION

I hereby certify that with respect to the foregoing:

- (1) all required privacy redactions have been made per 10th Cir. R. 25.5;
- (2) if required to file additional hard copies, that the ECF submission is an exact copy of those documents;
- (3) the digital submissions have been scanned for viruses with the most recent version of a commercial virus scanning program, Symantec Endpoint Protection (Version 12.1.6), and according to the program are free of viruses.

DATED this 28th day of October, 2016.

/s/ E. Blaine Rawson

E. Blaine Rawson
Ray Quinney & Nebeker, P.C.
36 South State Street, Suite 1400
Salt Lake City, UT 84111
brawson@rqn.com
(801) 532-1500

/s/ Michael G. Jenkins

Michael G. Jenkins
Assistant General Counsel
PacifiCorp Energy
1407 North Temple, Suite 310
Salt Lake City, Utah 84116
michael.jenkins@pacificorp.com
(801) 220-2233

Attorneys for Petitioner PacifiCorp

Exhibit E***PacifiCorp v. EPA, Consolidated Case Nos. 16-9541, 16-9542, 16-9543, 16-9545***

Excerpts from Western Regional Air Partnership, Regional Haze Rule Reasonable Progress Report Support Document, State and Class I Area Summaries (Docket ID No. EPA-R08-OAR-2015-0463-0200) and Utah Division of Air Quality, Progress Report for Utah's State Implementation Plan for Regional Haze (May 18, 2015)

6.0 STATE AND CLASS I AREA SUMMARIES

As described in Section 2.0, each state is required to submit progress reports at interim points between submittals of Regional Haze Rule (RHR) State Implementation Plans (SIPs), which assess progress towards visibility improvement goals in each state's mandatory Federal Class I areas (CIAs). Data summaries for each CIA in each Western Regional Air Partnership (WRAP) state, which address Regional Haze Rule (RHR) requirements for visibility measurements and emissions inventories are provided in this section. These summaries are intended to provide individual states with the technical information they need to determine if current RHR implementation plan elements and strategies are sufficient to meet all established reasonable progress goals, as defined in their respective initial RHR implementation plans.

6.13 UTAH

The goal of the RHR is to ensure that visibility on the 20% most impaired, or worst, days continues to improve at each Federal Class I area (CIA), and that visibility on the 20% least impaired, or best, days does not get worse, as measured at representative Interagency Monitoring of Protected Visual Environments (IMPROVE) monitoring sites. Utah has 5 mandatory Federal CIAs, which are depicted in Figure 6.13-1 and listed in Table 6.13-1, along with the associated IMPROVE monitor locations.

This section addresses differences between the 2000-2004 baseline and 2005-2009 period, for both monitored data and emission inventory estimates. Monitored data are presented for the 20% most impaired, or worst, days and for the 20% least impaired, or best, days, as per Regional Haze Rule (RHR) requirements. Annual average trend statistics for the 2000-2009 10-year period are also presented here to support assessments of changes in each monitored species that contributes to visibility impairment. Some of the highlights regarding these comparisons are listed below, and more detailed state specific information is provided in monitoring and emissions sub-sections that follow.

- For the best days, the 5-year average deciview metric decreased at all Utah Federal CIA IMPROVE sites.
- For the worst days, 5-year average deciview metric increased at the BRCA1 and CAPI1 sites, and decreased at the ZICA1 and CANY1 sites.
- Changes in deciview averages for the worst days were driven by changes in particulate organic mass, which increased at the BRCA1 and CAPI1 sites and decreased at the ZICA1 and CANY1 sites.
- Ammonium sulfate decreased at all except the ZICA1 site, but changes in 5-year averages at the ZICA1 site used estimates for baseline data that were based on changes measured in the broader Colorado Plateau region. Ammonium sulfate showed decreasing annual average trends at all sites, which was consistent with emissions inventory comparison results that showed large decreases in point source SO₂ emission inventories.
- Ammonium nitrate decreased at all except the CANY1 site, and showed a statistically significant decreasing annual average trend at the CAPI1 site. Changes in emissions inventories showed a net reduction in anthropogenic sources, with increases in area sources and decreases in mobile sources.
- Coarse mass increased at the CAPI1 and CANY1 sites, but neither site showed increasing trends. Higher 5-year averages for the current period were influenced by higher than average coarse mass events in late April 2008 at both sites.

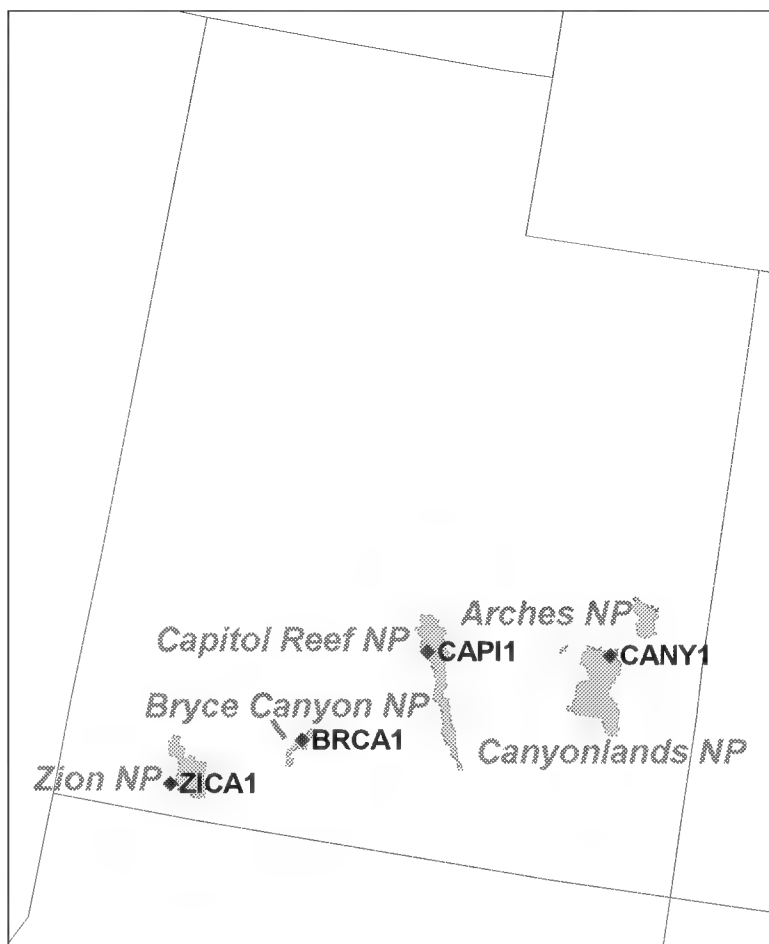


Figure 6.13-1. Map Depicting Federal CIAs and Representative IMPROVE Monitors in Utah.

Table 6.13-1
Utah CIAs and Representative IMPROVE Monitors

Class I Area	Representative IMPROVE Site	Latitude	Longitude	Elevation (m)
Bryce Canyon NP	BRCA1	37.62	-112.17	2481
Canyonlands NP	CANY1	38.46	-109.82	1798
Arches NP				
Capitol Reef NP	CAPI1	38.30	-111.29	1896
Zion NP	ZICA1*	37.20	-113.15	1215

*Replaced the ZION1 monitoring site in 2003.

6.13.1 Monitoring Data

This section addresses RHR regulatory requirements for monitored data as measured by IMPROVE monitors representing Federal CIAs in Utah, including estimates of baseline concentrations for the Zion National Park ZICA1 site. These summaries are supported by

regional data presented in Section 4.0 and by more detailed site specific tables and charts in Appendix M.

As described in Section 3.1, regional haze progress in Federal CIAs is tracked using calculations based on speciated aerosol mass as collected by IMPROVE monitors. The RHR calls for tracking haze in units of deciviews (dv), where the deciview metric was designed to be linearly associated with human perception of visibility. In a pristine atmosphere, the deciview metric is near zero, and a one deciview change is approximately equivalent to a 10% change in cumulative species extinction. To better understand visibility conditions, summaries here include both the deciview metric, and the apportionment of haze into extinction due to the various measured species in units of inverse megameters (Mm^{-1}).

6.13.1.1 Zion Baseline Estimate

In Utah, the ZION1 IMPROVE monitor, which was originally intended to represent Zion National Park, began operation in 2000 at a site located on the northwest edge of the park, near an interstate highway. In 2003 a second IMPROVE monitor, ZICA1, was established approximately 19 miles from the original ZION1 along the southwest edge of the park. A map depicting both Zion National Park sites is presented in Figure 6.13-2.

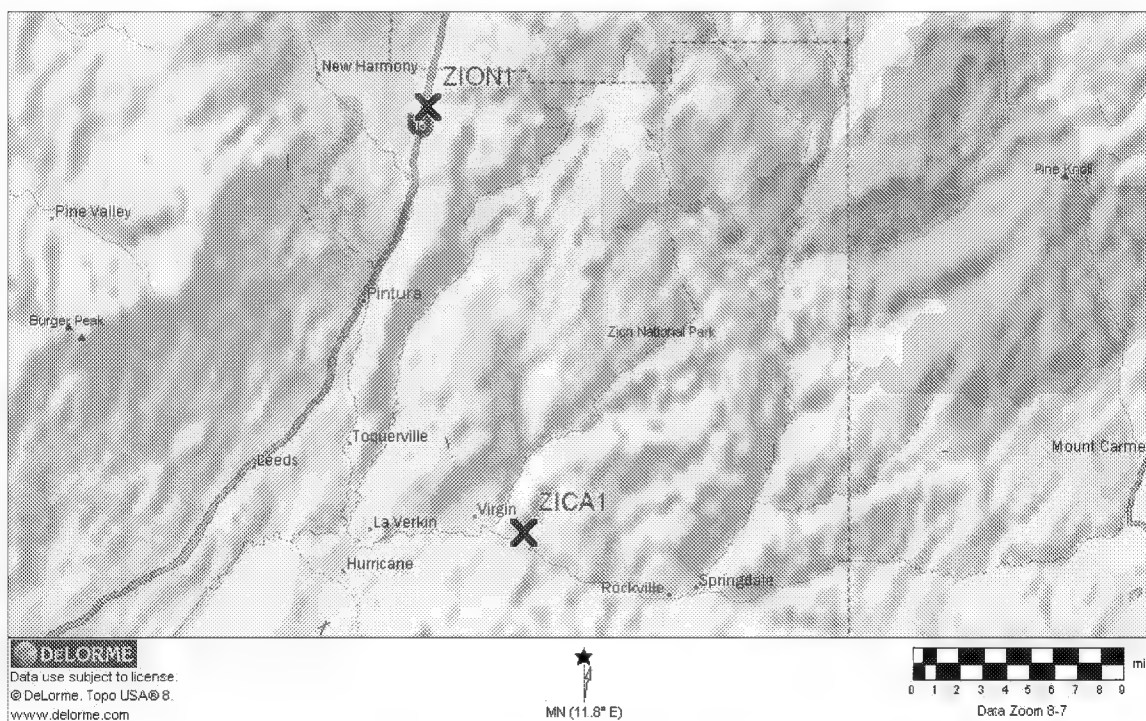


Figure 6.13-2. Map of ZION1 and ZICA1 Sites Representing Zion National Park.

The second site was installed in part because elevated ammonium nitrate at the original site was influenced by mobile sources from the interstate highway that were not representative of park conditions. Figure 6.13-3 presents a scatter plot of ammonium nitrate measurements for the period where both samplers ran concurrently between February 2, 2003, when the ZICA1

monitor was installed, and ending July 29, 2004, when monitoring at the ZION1 site was discontinued. The comparison indicates that ammonium nitrate measurements were much higher at the ZION1 site than the ZICA1 site. Because of these differences, it was determined that future RHR SIPs and progress updates should use the ZICA1 data.

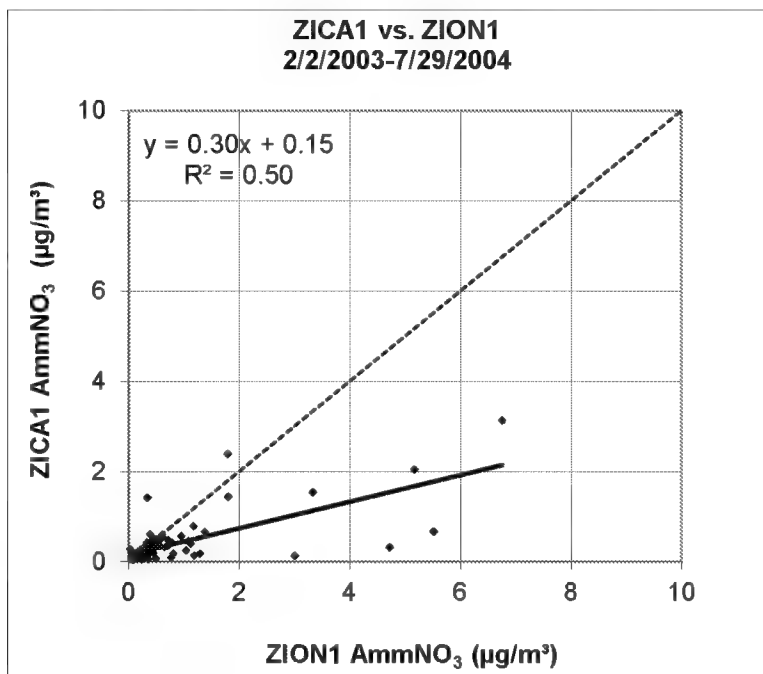


Figure 6.13-3. Correlation Plot for Ammonium Nitrate Depicting Mass Measured at the ZICA1 and ZION1 sites between February 2, 2003 and July 29, 2004.

RHR guidelines require that progress be measured against the 2000-2004 baseline period,¹ but baseline data are not available for the ZICA1 location. The RHR also states that approximations should be made for baseline conditions if these monitoring data are not available.² A methodology to estimate baseline conditions for the ZICA1 site was developed in consultation with the State of Utah – Division of Air Quality and IMPROVE Steering Committee representatives from the U.S. Forest Service and National Park Service. This methodology involved applying an average of ratios between progress periods and baseline periods at nearby sites in the region to scale the ZICA1 progress period. Sites selected included those that represent the 16 CIAs on the Colorado Plateau, which have previously been treated regionally as the focus of the Grand Canyon Visibility Transport Commission (GCVTC) report³ and subsequent Section

¹ EPA's September 2003 *Guidance for Tracking Progress Under the Regional Haze Rule* specifies that progress is tracked against the 2000-2004 baseline period using corresponding averages over successive 5-year periods, i.e. 2005-2009, 2010-2014, etc. (see page 4-2 in the Guidance document)

² Section 308(d)(2)(i) of the RHR states, "For mandatory Class I Federal areas without onsite monitoring data for 2000-2004, the State must establish baseline values using the most representative available monitoring data for 2000-2004, in consultation with the Administrator or his or her designee."

³ The June 1996 *Grand Canyon Visibility Transport Commission Report, Recommendations for Improving Western Vistas* Report is available at www.wrapair.org/WRAP/reports/GCVTCFinal.PDF.

309 requirements of the RHR. Table 6.13-2 list the Colorado Plateau CIA areas and representative IMPROVE sites that were used as the basis for the ZICA1 baseline estimate.

Table 6.13-2
Colorado Plateau CIAs and Representative IMPROVE Sites

State	Colorado Plateau Class I Area	IMPROVE Site
AZ	Mount Baldy WA	BALD1
	Grand Canyon NP	GRCA2
	Petrified Forest NP	PEFO1
	Sycamore Canyon WA	SYCA1
CO	Mesa Verde NP	MEVE1
	Black Canyon of the Gunnison NP	WEMI1
	Weminuche WA	
	Flat Tops WA	WHRI1
	Maroon Bells-Snowmass WA	
	West Elk WA	
NM	San Pedro Parks WA	SAPE1
UT	Bryce Canyon NP	BRCA1
	Arches NP	CANY1
	Canyonlands NP	
	Capitol Reef NP	CAP11
	Zion NP	ZICA1

To estimate baseline conditions at the ZICA1 site, ratios between the 2005-2009 progress period and the 2000-2004 baseline period were determined for each species, for both the 20% most impaired days and 20% least impaired data, for each site in the Colorado Plateau. The average of these ratios was then applied to the ZICA1 progress period measurement to estimate the 2000-2004 baseline period for each species at the ZICA1 site, for both the most and least impaired days. Table 6.13-3 lists the average progress to baseline period ratios for the Colorado Plateau sites for the 20% most impaired days, and Table 6.13-4 lists averages and ratios for the least impaired days. These average ratios were applied to the 2005-2009 progress period from the ZICA1 site to obtain species and group specific estimates, such that, for each species:

$$\frac{\text{ZICA1 Progress Period}}{\text{Colorado Plateau Progress Baseline Average}} = \text{ZICA1 Baseline Period Estimate}$$

Table 6.13-3
Colorado Plateau Sites
20% Most Impaired Visibility Days
Species Averages and Ratios

20% Most Impaired Days		GRCAI	BALDI	PEFOI	SYCAI	WEMII	WHRII	MEVEI	SAPEI	CANYI	BRCAI	CAPII	Average Progress/ Baseline Ratio
Ammonium Sulfate	Baseline Period	5.4	6.2	6.6	5.0	5.0	4.8	6.5	5.8	5.6	5.2	5.9	1.04
	Progress Period	5.8	6.5	7.2	5.7	5.1	5.1	6.3	6.8	5.3	5.0	5.7	
	Ratio (progress/ baseline)	1.09	1.04	1.08	1.14	1.02	1.07	0.97	1.17	0.95	0.96	0.97	
Ammonium Nitrate	Baseline Period	2.2	1.1	1.8	2.0	1.2	1.3	2.3	1.6	3.0	2.5	3.4	0.86
	Progress Period	1.8	1.0	1.5	1.4	1.0	1.3	2.0	1.2	3.3	2.2	2.7	
	Ratio (progress/ baseline)	0.81	0.87	0.83	0.67	0.83	1.02	0.86	0.73	1.10	0.89	0.80	
Particulate Organic Carbon	Baseline Period	10.7	13.0	10.9	11.7	8.3	7.8	12.3	7.7	7.1	9.4	5.8	0.91
	Progress Period	10.7	10.9	9.5	11.2	6.9	5.6	6.5	6.3	6.2	11.8	7.6	
	Ratio (progress/ baseline)	1.01	0.84	0.87	0.96	0.84	0.71	0.53	0.82	0.87	1.27	1.30	
Light Absorbing Carbon	Baseline Period	2.4	2.8	2.9	3.2	2.0	1.8	2.4	1.6	1.7	2.4	1.6	0.98
	Progress Period	2.9	2.1	3.4	3.5	1.8	1.4	1.6	1.6	1.6	2.5	1.8	
	Ratio (progress/ baseline)	1.23	0.75	1.16	1.12	0.92	0.81	0.70	0.96	0.94	1.07	1.09	
Soil	Baseline Period	1.3	1.1	2.0	6.8	1.3	1.2	2.5	1.5	1.5	1.2	1.3	1.07
	Progress Period	1.5	1.5	2.6	5.8	1.3	1.3	2.0	1.3	1.5	1.3	1.6	
	Ratio (progress/ baseline)	1.11	1.35	1.28	0.85	1.05	1.07	0.79	0.91	1.04	1.06	1.27	
Coarse Mass	Baseline Period	3.5	2.8	7.3	9.4	3.0	2.8	6.5	2.7	3.8	4.0	3.4	1.00
	Progress Period	3.2	4.1	6.3	10.8	3.0	2.3	4.6	2.5	4.6	3.1	4.1	
	Ratio (progress/ baseline)	0.92	1.44	0.87	1.15	0.99	0.81	0.70	0.93	1.20	0.76	1.20	
Sea Salt	Baseline Period	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	2.31
	Progress Period	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	
	Ratio (progress/ baseline)	0.80	2.36	5.36	0.93	0.37	3.05	1.42	0.57	1.80	1.31	7.46	

Table 6.13-4
Colorado Plateau Sites
20% Least Impaired Visibility Days
Species Averages and Ratios

20% Least Impaired Days		GRCAI	BALDI	PEFOI	SYCAI	WEMII	WHRII	MEVEI	SAPEI	CANYI	BRCAI	CAPII	Average Progress/ Baseline Ratio
Ammonium Sulfate (Mm ⁻¹)	Baseline Period	1.5	1.6	2.3	2.0	1.5	1.1	2.4	1.6	2.2	1.5	1.9	0.94
	Progress Period	1.6	1.6	2.1	2.1	1.3	1.0	2.1	1.5	1.8	1.4	1.6	
	Ratio (progress/ baseline)	1.08	0.96	0.95	1.03	0.91	0.96	0.87	0.94	0.84	0.92	0.84	
Ammonium Nitrate (Mm ⁻¹)	Baseline Period	0.4	0.4	0.8	0.9	0.3	0.3	0.8	0.4	0.6	0.7	1.0	0.78
	Progress Period	0.4	0.3	0.6	0.8	0.2	0.2	0.6	0.4	0.5	0.5	0.6	
	Ratio (progress/ baseline)	1.01	0.74	0.78	0.92	0.72	0.73	0.67	0.83	0.89	0.76	0.56	
Particulate Organic Carbon (Mm ⁻¹)	Baseline Period	0.6	1.2	1.9	2.4	1.2	0.6	1.5	0.7	1.1	1.0	1.3	0.72
	Progress Period	0.5	1.2	1.5	1.8	0.9	0.3	1.0	0.6	0.7	0.7	0.9	
	Ratio (progress/ baseline)	0.80	0.94	0.78	0.75	0.70	0.51	0.68	0.78	0.59	0.71	0.65	
Light Absorbing Carbon (Mm ⁻¹)	Baseline Period	0.3	0.6	1.3	1.6	0.8	0.5	0.6	0.4	0.4	0.4	0.6	0.75
	Progress Period	0.3	0.6	1.3	1.4	0.5	0.3	0.4	0.2	0.3	0.2	0.3	
	Ratio (progress/ baseline)	0.87	0.92	0.99	0.88	0.70	0.72	0.68	0.63	0.70	0.60	0.57	
Soil (Mm ⁻¹)	Baseline Period	0.1	0.2	0.4	0.7	0.2	0.1	0.4	0.2	0.3	0.1	0.3	0.90
	Progress Period	0.2	0.2	0.4	0.6	0.2	0.1	0.2	0.1	0.2	0.1	0.2	
	Ratio (progress/ baseline)	1.06	1.04	1.16	0.86	0.87	1.04	0.61	0.96	0.69	0.95	0.62	
Coarse Mass (Mm ⁻¹)	Baseline Period	0.4	0.5	1.0	1.0	0.7	0.2	0.7	0.3	1.0	0.5	1.0	0.91
	Progress Period	0.5	0.6	1.0	1.2	0.6	0.3	0.4	0.3	0.7	0.4	0.6	
	Ratio (progress/ baseline)	1.05	1.29	1.01	1.13	0.89	1.02	0.59	1.02	0.75	0.71	0.60	
Sea Salt (Mm ⁻¹)	Baseline Period	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.50
	Progress Period	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Ratio (progress/ baseline)	1.53	8.34	4.45	2.42	1.24	1.25	1.03	1.02	1.51	3.92	0.78	

Because of the logarithmic nature of the dv calculation (i.e., $dv = 10\ln(b_{\text{ext}}/10)$), average dv ratios were not applied. Instead, in a manner consistent with RHR calculations, ratios were applied to individual species and individual days, and 5-year average deciview value was calculated from annual average deciviews, which were in turn calculated from daily average deciview value. Table 6.13-5 lists results for the ZICA1 site, where deciview values for the baseline period are approximated as being slightly higher than the measured progress period for both the 20% most impaired and least impaired days. These estimated baseline period averages are used to represent the ZICA1 for all summaries presented in this report. Note that similar baseline estimates have also been applied to estimate baseline conditions for the HACR1 site in Hawaii, as described in Section 6.5.1.1.

Table 6.13-5
ZICA1 Progress Period and Baseline Estimates

20% Least Impaired Days		ZICA1 2005-2009 Progress Period	Average of Colorado Plateau Progress/Baseline Ratios	ZICA1 2000-2004 Baseline Estimate
Ammonium Sulfate (Mm^{-1})	20% Best Days	1.7	0.94	1.8
	20% Worst Days	5.4	1.04	5.2
Ammonium Nitrate (Mm^{-1})	20% Best Days	0.6	0.78	0.8
	20% Worst Days	1.9	0.86	2.2
Particulate Organic Carbon (Mm^{-1})	20% Best Days	1.3	0.72	1.8
	20% Worst Days	8.5	0.91	9.3
Light Absorbing Carbon (Mm^{-1})	20% Best Days	0.6	0.75	0.8
	20% Worst Days	2.4	0.98	2.4
Soil (Mm^{-1})	20% Best Days	0.3	0.90	0.3
	20% Worst Days	1.8	1.07	1.7
Coarse Mass (Mm^{-1})	20% Best Days	1.0	0.91	1.1
	20% Worst Days	5.6	1.00	5.6
Sea Salt (Mm^{-1})	20% Best Days	0.0	2.50	0.0
	20% Worst Days	0.1	2.31	0.1
Deciviews (dv)	20% Best Days	4.3	N/A	5.0*
	20% Worst Days	12.3	N/A	12.5*

*Calculated from daily average b_{ext} determined using species specific average ratios from all Colorado Plateau sites.

6.13.1.2 Current Conditions

This section addresses the regulatory question, *what are the current visibility conditions for the most impaired and least impaired days (40 CFR 51.309(d)(10)(i)(C))*? RHR guidance specifies that 5-year averages be calculated over successive 5-year periods, i.e. 2000-2004, 2005-2009, 2010-2014, etc.⁴ Current visibility conditions are represented here as the most recent successive 5-year average period available, or the 2005-2009 period average, although the most recent IMPROVE monitoring data currently available includes 2010 data.

Tables 6.13-6 and 6.13-7 present the calculated deciview values for current conditions at each site, along with the percent contribution to extinction from each aerosol species for the 20% most impaired, or worst, and 20% least impaired, or best, days for each of the Federal CIA IMPROVE monitors in Utah. Figure 6.13-4 presents 5-year average extinction for the current progress period for both the 20% most impaired and 20% least impaired days. Note that the percentages in the tables consider only the aerosol species which contribute to extinction, while the charts also show Rayleigh, or scattering due to background gases in the atmosphere.

Specific observations for the current visibility conditions on the 20% most impaired days are as follows:

- The largest contributors to aerosol extinction at Utah sites were particulate organic mass, ammonium sulfate and coarse mass.
- The highest aerosol extinction (12.3 dv) was measured at the ZICA1 site, where particulate organic mass was the largest contributor to aerosol extinction, followed by coarse mass. The lowest aerosol extinction (11.0 dv) was measured at the CANY1 site.

Specific observations for the current visibility conditions on the 20% least impaired days are as follows:

- The aerosol contribution to total extinction on the best days was less than Rayleigh, or the background scattering that would occur in clear air. Average extinction (including Rayleigh) ranged from 2.1 dv (BRCA2) to 4.3 dv (ZICA1).
- For all sites, ammonium sulfate was the largest contributor to the non-Rayleigh aerosol species of extinction

⁴ EPA's September 2003 *Guidance for Tracking Progress Under the Regional Haze Rule* specifies that progress is tracked against the 2000-2004 baseline period using corresponding averages over successive 5-year periods, i.e. 2005-2009, 2010-2014, etc. (See page 4-2 in the Guidance document.)

Table 6.13-6
Utah Class I Area IMPROVE Sites
Current Visibility Conditions
2005-2009 Progress Period, 20% Most Impaired Days

Site	Deciviews (dv)	Percent Contribution to Aerosol Extinction by Species (Excludes Rayleigh) (% of Mm^{-1}) and Rank*						
		Ammonium Sulfate	Ammonium Nitrate	Particulate Organic Mass	Elemental Carbon	Soil	Coarse Mass	Sea Salt
BRCA1	11.9	19% (2)	9% (5)	45% (1)	10% (4)	5% (6)	12% (3)	0% (7)
CANY1	11.0	23% (2)	14% (4)	27% (1)	7% (5)	7% (6)	20% (3)	0% (7)
CAPI1	11.3	24% (2)	12% (4)	32% (1)	8% (5)	7% (6)	17% (3)	0% (7)
ZICA1	12.3	21% (3)	7% (5)	33% (1)	9% (4)	7% (6)	22% (2)	0% (7)

*Highest aerosol species contribution per site is highlighted in bold.

Table 6.13-7
Utah Class I Area IMPROVE Sites
Current Visibility Conditions
2005-2009 Progress Period, 20% Least Impaired Days

Site	Deciviews (dv)	Percent Contribution to Aerosol Extinction by Species (Excludes Rayleigh) (% of Mm^{-1}) and Rank						
		Ammonium Sulfate	Ammonium Nitrate	Particulate Organic Mass	Elemental Carbon	Soil	Coarse Mass	Sea Salt
BRCA1	2.1	40% (1)	15% (3)	22% (2)	7% (5)	4% (6)	11% (4)	1% (7)
CANY1	2.8	43% (1)	12% (4)	15% (3)	7% (5)	5% (6)	17% (2)	1% (7)
CAPI1	2.7	38% (1)	13% (4)	21% (2)	8% (5)	5% (6)	14% (3)	1% (7)
ZICA1	4.3	30% (1)	11% (4)	23% (2)	10% (5)	6% (6)	18% (3)	1% (7)

*Highest aerosol species contribution per site is highlighted in bold.

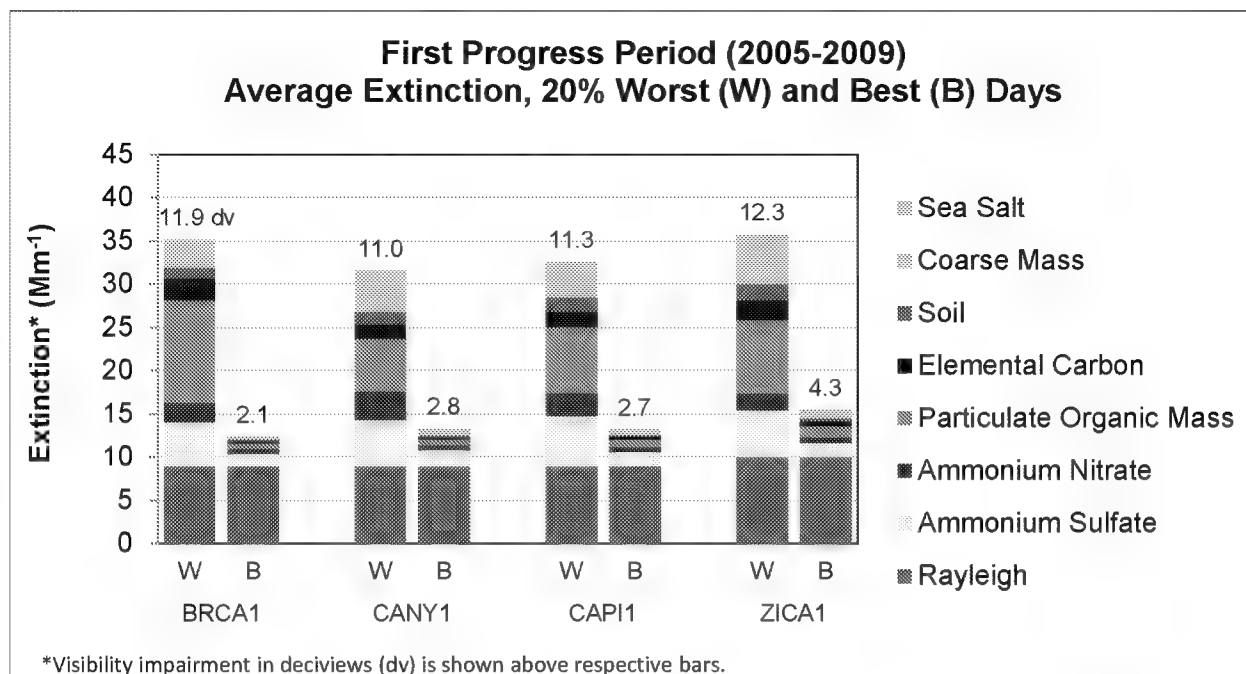


Figure 6.13-4. Average Extinction for Current Progress Period (2005-2009) for the Worst (Most Impaired) and Best (Least Impaired) Days Measured at Utah Class I Area IMPROVE Sites.

6.13.1.3 Differences between Current and Baseline Conditions

This section addresses the regulatory question, *what is the difference between current visibility conditions for the most impaired and least impaired days and baseline visibility conditions (40 CFR 51.309(d)(10)(i)(C))*? Included here are comparisons between the 5-year average baseline conditions (2000-2004) and current progress period extinction (2005-2009).

Table 6.13-8 presents the differences between the 2000-2004 baseline period average extinction and the 2005-2009 progress period average for each site in Utah for the 20% most impaired days, and Table 6.13-9 presents similar data for the least impaired days. Averages that increased are depicted in red text and averages that decreased in blue.

Figure 6.13-5 presents the 5-year average extinction for the baseline and current progress period averages for the worst days and Figure 6.13-6 presents the differences in averages by aerosol species, with increases represented above the zero line and decreases below the zero line. Figures 6.13-7 and 6.13-8 present similar plots for the best days.

For the 20% most impaired days, the 5-year average RHR deciview metric increased between the 2000-2004 and 2005-2009 periods at the BRCA1 and CAPI1 sites and decreased at the CANY1 and ZICA1 sites. Notable differences for individual species averages were as follows:

- Increases in 5-year average deciviews at the BRCA1 and CAPI1 sites were mostly due to increases in particulate organic mass, with some increases also measured in

elemental carbon and soil. Coarse mass also contributed to increases at the CAPI1 site. Increases were offset by decreases in ammonium nitrate and ammonium sulfate at both sites.

- Ammonium sulfate decreased at all sites except ZICA1. Note that the ZICA1 site did not measure during the baseline years, and changes reported here are proportional to average changes in extinction as measured at regional sites as discussed in Section 6.13.1.1.

For the 20% least impaired days, the 5-year average deciview metric decreased at all sites. Notable differences for individual species averages on the 20% least impaired days were as follows:

- All species at all sites either decreased or stayed the same between the baseline and current progress period for the best days.
- The largest decreases on the best days were measured in particulate organic mass, ammonium nitrate, ammonium sulfate, and coarse mass.

Table 6.13-8
Utah Class I Area IMPROVE Sites
Difference in Aerosol Extinction by Species
2000-2004 Baseline Period to 2005-2009 Progress Period
20% Most Impaired Days

Site	Deciview (dv)			Change in Extinction by Species (Mm ⁻¹)*						
	2000-04 Baseline Period	2005-09 Progress Period	Change in dv*	Amm. Sulfate	Amm. Nitrate	POM	EC	Soil	CM	Sea Salt
BRCA1	11.6	11.9	+0.3	-0.2	-0.3	+2.5	+0.2	+0.1	-0.9	0.0
CANY1	11.2	11.0	-0.2	-0.3	+0.3	-0.9	-0.1	+0.1	+0.8	0.0
CAPI1	10.9	11.3	+0.4	-0.2	-0.7	+1.8	+0.2	+0.3	+0.7	+0.1
ZICA1	12.5	12.3	-0.2	+0.2	-0.3	-0.8	-0.1	+0.1	0.0	+0.1

*Change is calculated as progress period average minus baseline period average. Values in red indicate increases in extinction and values in blue indicate decreases.

Table 6.13-9
Utah Class I Area IMPROVE Sites
Difference in Aerosol Extinction by Species
2000-2004 Baseline Period to 2005-2009 Progress Period
20% Least Impaired Days

Site	Deciview (dv)			Change in Extinction by Species (Mm ⁻¹)*						
	2000-04 Baseline Period	2005-09 Progress Period	Change in dv*	Amm. Sulfate	Amm. Nitrate	POM	EC	Soil	CM	Sea Salt
BRCA1	2.8	2.1	-0.7	-0.1	-0.2	-0.3	-0.2	0.0	-0.1	0.0
CANY1	3.7	2.8	-0.9	-0.3	-0.1	-0.5	-0.1	-0.1	-0.2	0.0
CAPI1	4.1	2.7	-1.4	-0.3	-0.4	-0.5	-0.3	-0.1	-0.4	0.0
ZICA1	5.0	4.3	-0.7	-0.1	-0.2	-0.5	-0.2	0.0	-0.1	0.0

*Change is calculated as progress period average minus baseline period average. Values in red indicate increases in extinction and values in blue indicate decreases.

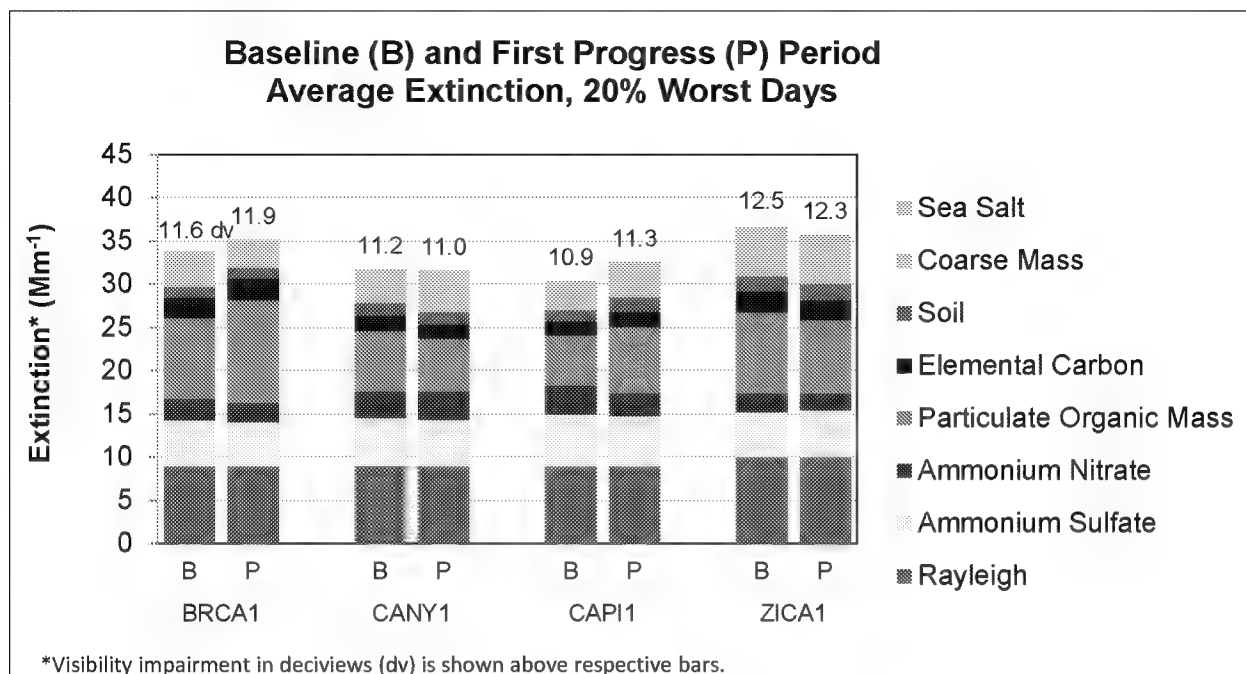


Figure 6.13-5. Average Extinction for Baseline and Progress Period Extinction for Worst (Most Impaired) Days Measured at Utah Class I Area IMPROVE Sites.

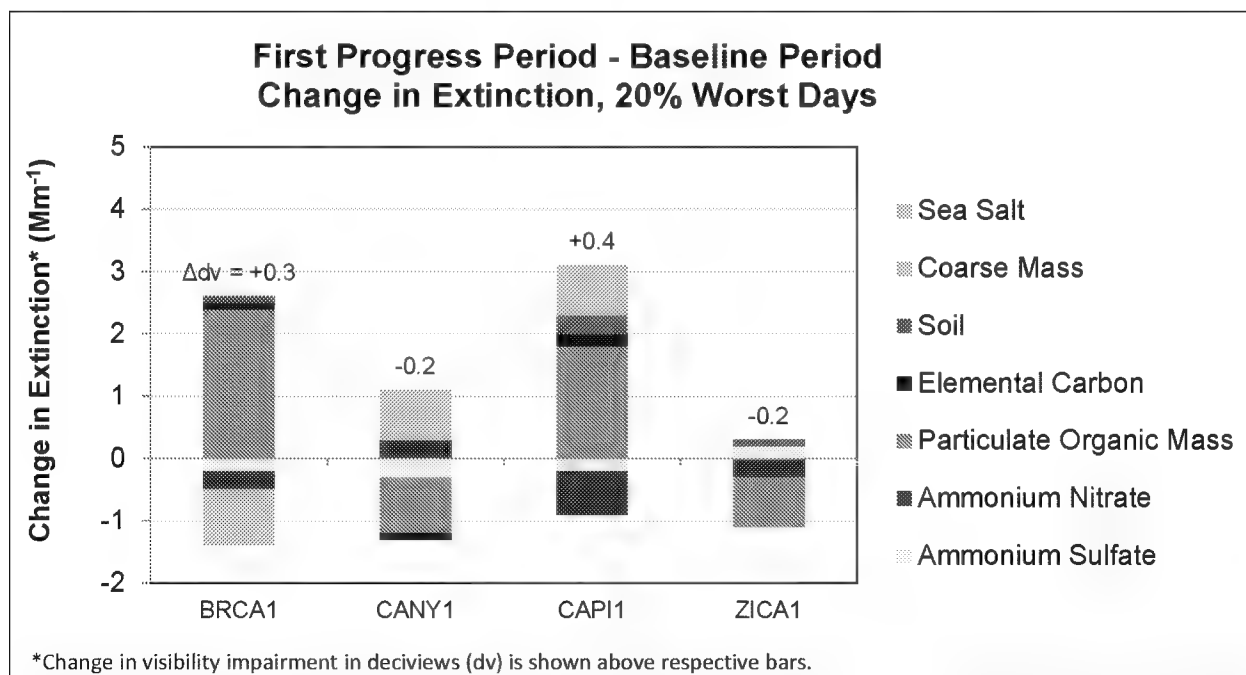


Figure 6.13-6. Difference between Average Extinction for Current Progress Period (2005-2009) and Baseline Period (2000-2004) for the Worst (Most Impaired) Days Measured at Utah Class I Area IMPROVE Sites.

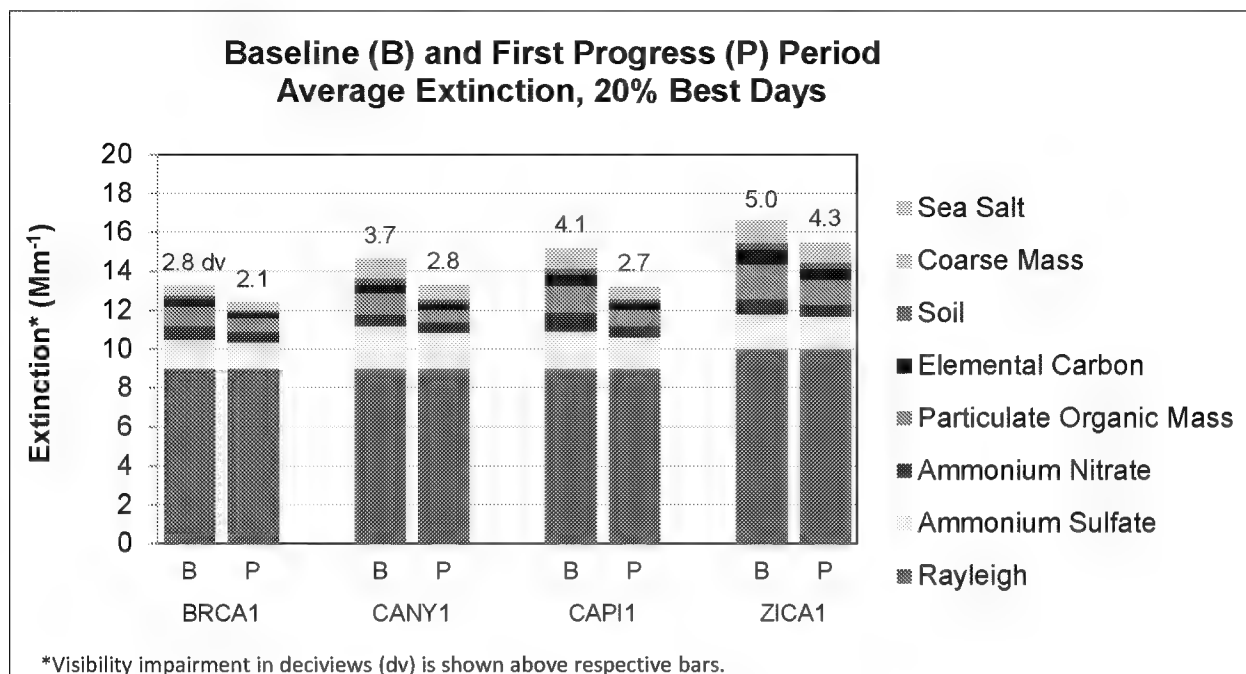


Figure 6.13-7. Average Extinction for Baseline and Progress Period Extinction for Best (Least Impaired) Days Measured at Utah Class I Area IMPROVE Sites.

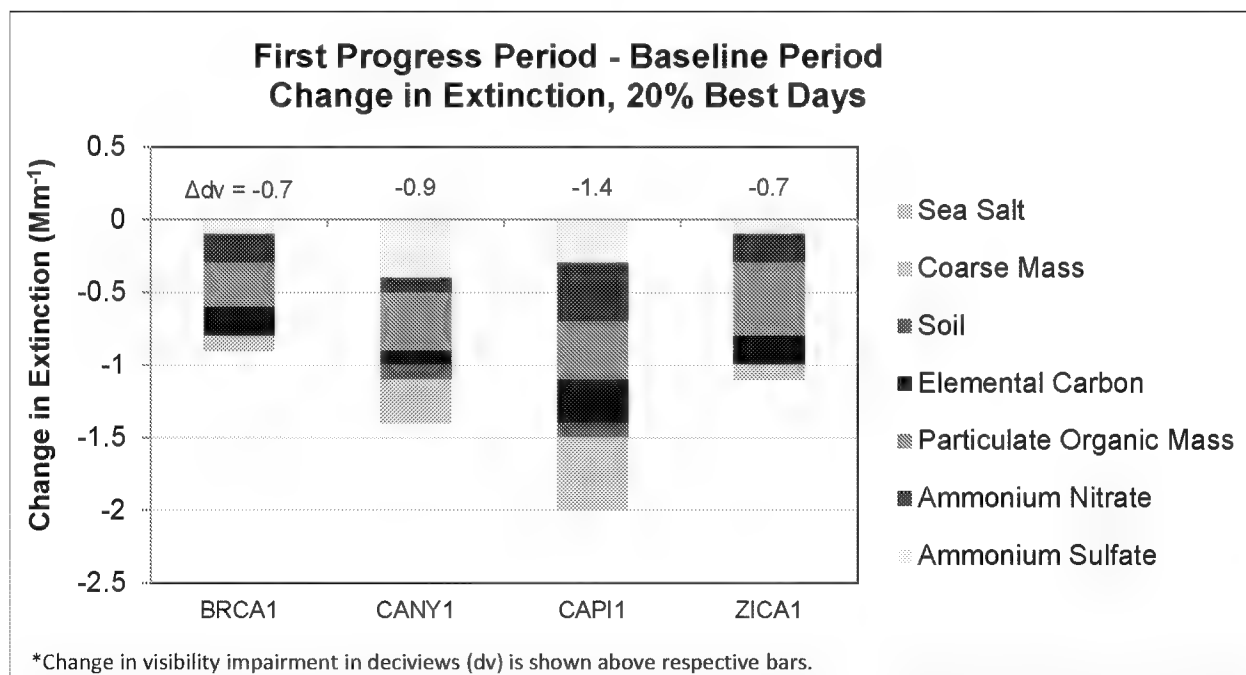


Figure 6.13-8. Difference between Average Extinction for Current Progress Period (2005-2009) and Baseline Period (2000-2004) for the Best (Least Impaired) Days Measured at Utah Class I Area IMPROVE Sites.

6.13.1.4 Changes in Visibility Impairment

This section addresses the regulatory question, *what is the change in visibility impairment for the most impaired and least impaired days over the past 5 years (40 CFR 51.309(d)(10)(i)(C))*? Included here are changes in visibility impairment as characterized by annual average trend statistics, and some general observations regarding local and regional events and outliers on a daily and annual basis that affected the current 5-year progress period. The regulatory requirement asks for a description of changes over the past 5-year period, but trend analysis is better suited to longer periods of time, so trends for the entire 10-year planning period are presented here.

Trend statistics for the years 2000-2009 for each species at each site in Utah are summarized in Table 6.13-10, and regional trends were presented earlier in Section 4.1.1.⁵ Only trends for aerosol species trends with p-value statistics less than 0.15 (85% confidence level) are presented in the table here, with increasing slopes in red and decreasing slopes in blue.⁶ In some cases, trends may show decreasing tendencies while the difference between the 5-year averages do not (or vice versa), as discussed in Section 3.1.2.2. In these cases, the 5-year average for the best and worst days is the important metric for RHR regulatory purposes, but trend statistics may be of value to understand and address visibility impairment issues for planning purposes.

For each site, a more comprehensive list of all trends for all species, including the associated p-values, is provided in Appendix M. Additionally, the appendix includes plots depicting 5-year, annual, monthly and daily average extinction for each site. These plots are intended to provide a fairly comprehensive compilation of reference information for individual states to investigate local and regional events and outliers that may have influenced changes in visibility impairment as tracked using the 5-year deciview metrics. Note that similar summary products are also available from the WRAP TSS website (<http://vista.cira.colostate.edu/tss/>). Some general observations regarding changes in visibility impairment at sites in Utah are as follows:

- Particulate organic mass was the largest contributor to aerosol extinction at all sites in Utah. The largest difference between the 5-year average baseline and progress periods was measured for particulate organic mass at the BRCA1 site. This difference average was influenced by a high particulate organic mass events in July and August, 2009.
- For ammonium sulfate, annual average trend statistics for all measured days indicated decreasing trends at all Utah sites. A slight increase in the 5-year average ammonium

⁵ Annual trends were calculated for the years 2000-2009, with a trend defined as the slope derived using Theil statistics. Trends derived from Theil statistics are useful in analyzing changes in air quality data because these statistics can show the overall tendency of measurements over long periods of time, while minimizing the effects of year-to-year fluctuations which are common in air quality data. Theil statistics are also used in EPA's National Air Quality Trends Reports (<http://www.epa.gov/airtrends/>) and the IMPROVE program trend reports (http://vista.cira.colostate.edu/improve/Publications/improve_reports.htm)

⁶ The significance of the trend is represented with p-values calculated using Mann-Kendall trend statistics. Determining a significance level helps to distinguish random variability in data from a real tendency to increase or decrease over time, where lower p-values indicate higher confidence levels in the computed slopes.

sulfate was reported for the ZICA1 site, but this was based on a baseline average estimate as described in Section 6.13.1.1. Actual data measured between 2004 and 2009 at the ZICA1 site indicated a slightly decreasing annual average trend.

- For ammonium nitrate, annual average trend statistics for all measured days indicated a decreasing trend at the CAPI1 site, and either no trend or insignificant trends at the other Utah sites.
- For soil, slightly increasing annual average trends were measured at the ZICA1 site, and an increasing trend for the worst days was measured at the CAPI1 site.
- Coarse mass increased at the CAPI1 and CANY1 sites, but these sites did not show increasing trends. Higher 5-year current period averages were influenced by higher than average coarse mass events in late April of 2008 at both sites.

Table 6.13-10
Utah Class I Area IMPROVE Sites
Change in Aerosol Extinction by Species
2000-2009 Annual Average Trends

Site	Group	Annual Trend* (Mm ⁻¹ /year)						
		Ammonium Sulfate	Ammonium Nitrate	Particulate Organic Mass	Elemental Carbon	Soil	Coarse Mass	Sea Salt
BRCA1	20% Best	--	0.0	-0.1	0.0	--	0.0	0.0
	20% Worst	-0.2	--	0.5	0.1	--	--	0.0
	All Days	-0.1	0.0	--	--	--	--	--
CANY1	20% Best	-0.1	--	-0.1	0.0	--	-0.1	0.0
	20% Worst	-0.1	--	--	--	--	--	0.0
	All Days	-0.1	0.0	--	0.0	0.0	--	0.0
CAPI1	20% Best	-0.1	-0.1	-0.1	0.0	--	-0.1	--
	20% Worst	--	-0.2	--	--	0.1	--	0.0
	All Days	-0.1	-0.1	--	0.0	--	--	0.0
ZICA1	20% Best	0.0	--	--	0.0	0.0	--	0.0
	20% Worst	-0.5	--	--	--	--	--	--
	All Days	-0.2	--	--	-0.1	0.1	--	--

*(--) Indicates statistically insignificant trend (<85% confidence level). Annual averages and complete trend statistics for all significance levels are included for each site in Appendix M.

6.13.2 Emissions Data

Included here are summaries depicting differences between two emission inventory years that are used to represent the 5-year baseline and current progress periods. The baseline period is represented using a 2002 inventory developed by the WRAP for use in the initial WRAP state SIPs, and the progress period is represented by a 2008 inventory which leverages recent WRAP inventory work for modeling efforts, as referenced in Section 3.2.1. For reference, Table 6.13-7 lists the major emitted pollutants inventoried, the related aerosol species, some of the major sources for each pollutant, and some notes regarding implications of these pollutants. Differences

between these baseline and progress period inventories, and a separate summary of annual emissions from electrical generating units (EGUs), are presented in this section.

Table 6.13-11
Utah
Pollutants, Aerosol Species, and Major Sources

Emitted Pollutant	Related Aerosol	Major Sources	Notes
Sulfur Dioxide (SO ₂)	Ammonium Sulfate	Point Sources; On- and Off-Road Mobile Sources	SO ₂ emissions are generally associated with anthropogenic sources such as coal-burning power plants, other industrial sources such as refineries and cement plants, and both on- and off-road diesel engines.
Oxides of Nitrogen (NO _x)	Ammonium Nitrate	On- and Off-Road Mobile Sources; Point Sources; Area Sources	NO _x emissions are generally associated with anthropogenic sources. Common sources include virtually all combustion activities, especially those involving cars, trucks, power plants, and other industrial processes.
Ammonia (NH ₃)	Ammonium Sulfate and Ammonium Nitrate	Area Sources; On-Road Mobile Sources	Gaseous NH ₃ has implications in particle formation because it can form particulate ammonium. Ammonium is not directly measured by the IMPROVE program, but affects formation potential of ammonium sulfate and ammonium nitrate. All measured nitrate and sulfate is assumed to be associated with ammonium for IMPROVE reporting purposes.
Volatile Organic Compounds (VOCs)	Particulate Organic Mass (POM)	Biogenic Emissions; Vehicle Emissions; Area Sources	VOCs are gaseous emissions of carbon compounds, which are often converted to POM through chemical reactions in the atmosphere. Estimates for biogenic emissions of VOCs have undergone significant updates since 2002, so changes reported here are more reflective of methodology changes than actual changes in emissions (see Section 3.2.1).
Primary Organic Aerosol (POA)	POM	Wildfires; Area Sources	POA represents organic aerosols that are emitted directly as particles, as opposed to gases. Wildfires in the west generally dominate POA emissions, and large wildfire events are generally sporadic and highly variable from year-to-year.
Elemental Carbon (EC)	EC	Wildfires; On- and Off-Road Mobile Sources	Large EC events are often associated with large POM events during wildfires. Other sources include both on- and off-road diesel engines.
Fine Soil	Soil	Windblown Dust; Fugitive Dust; Road Dust; Area Sources	Fine soil is reported here as the crustal or soil components of PM _{2.5} .
Coarse Mass (PMC)	Coarse Mass	Windblown Dust; Fugitive Dust	Coarse mass is reported by the IMPROVE Network as the difference between PM ₁₀ and PM _{2.5} mass measurements. Coarse mass is not separated by species in the same way that PM _{2.5} is speciated, but these measurements are generally associated with crustal components. Similar to crustal PM _{2.5} , natural windblown dust is often the largest contributor to PMC.

6.13.2.1 Changes in Emissions

This section addresses the regulatory question, *what is the change over the past 5 years in emissions of pollutants contributing to visibility impairment from all sources and activities within the State (40 CFR 51.309(d)(10)(i)(D))?* For these summaries, emissions during the baseline years are represented using a 2002 inventory, which was developed with support from the WRAP for use in the original RHR SIP strategy development (termed plan02d). Differences between inventories are represented as the difference between the 2002 inventory, and a 2008 inventory which leverages recent inventory development work performed by the WRAP for the WestJumpAQMS and DEASCO₃ modeling projects (termed WestJump2008). Note that the comparisons of differences between inventories does not necessarily reflect a change in emissions, as a number of methodology changes and enhancements have occurred between development of the individual inventories, as referenced in Section 3.2.1. Inventories for all major visibility impairing pollutants are presented for major source categories, and categorized as either anthropogenic or natural emissions. State-wide inventories totals and differences are presented here, and inventory totals on a county level basis are available on the WRAP Technical Support System website (<http://vista.cira.colostate.edu/tss/>).

Table 6.13-12 and Figure 6.13-9 present the differences between the 2002 and 2008 sulfur dioxide (SO₂) inventories by source category. Tables 6.13-13 and Figure 6.13-10 present data for oxides of nitrogen (NO_x), and subsequent tables and figures (Tables 6.13-14 through 6.13-19 and Figures 6.13-10 through 6.13-16) present data for ammonia (NH₃), volatile organic compounds (VOCs), primary organic aerosol (POA), elemental carbon (EC), fine soil, and coarse mass. Inventory totals on a county level basis will be made available on the WRAP TSS website (<http://vista.cira.colostate.edu/tss/>). General observations regarding emissions inventory comparisons are listed below.

- Largest differences for point source inventories were a decrease in SO₂ emissions and an increases in NO_x.
- Area source inventories showed decreases in SO₂ and increases in NO_x, NH₃, POA, and VOCs. These changes may be due to a combination of population changes and differences in methodologies used to estimate these emissions, as referenced in Section 3.2.1. One methodology change was the reclassification of some off-road mobile sources (such as some types of marine vessels and locomotives) into the area source category in 2008, which may have contributed to increases in area source inventory totals, but decreases in off-road mobile totals.
- On-road mobile source inventory comparisons showed decreases in most parameters, especially NO_x and VOCs, with increases in POA, EC, and coarse mass. Reductions in NO_x and VOC are likely influenced by federal and state emissions standards that have already been implemented. The increases in POA, EC, and coarse mass occurred in all of the WRAP states for on-road mobile inventories, regardless of reductions in NO_x and VOCs, indicating that these increases were likely due use of different on-road models, as referenced in Section 3.2.1.
- Off-road mobile source inventories showed decreases in NO_x, SO₂, and VOCs, and increases in fine soil and coarse mass, which was consistent with most contiguous

6.13.2.2 EGU Summary

As described in previous sections, differences between the baseline and progress period inventories presented here do not necessarily represent changes in actual emissions because numerous updates in inventory methodologies have occurred between the development of the separate inventories. Also, the 2002 baseline and 2008 progress period inventories represent only annual snapshots of emissions estimates, which may not be representative of entire 5-year monitoring periods compared. To better account for year-to-year changes in emissions, annual emission totals for Utah electrical generating units (EGU) are presented here. EGU emissions are some of the more consistently reported emissions, as tracked in EPA's Air Markets Program Database for permitted Title V facilities in the state (<http://ampd.epa.gov/ampd/>). RHR implementation plans are required to pay specific attention to certain major stationary sources, including EGUs, built between 1962 and 1977.

Figure 6.13-17 presents a sum of annual NO_x and SO₂ emissions as reported for Utah EGU sources between 1996 and 2010. While these types of facilities are targeted for controls in state regional haze SIPs, it should be noted that many of the controls planned for EGUs in the WRAP states had not taken place yet in 2010, while other controls separate from the RHR may have been implemented. The chart shows some periods of decline for both NO_x and SO₂, with a sharp decline in SO₂ emissions between 2006 and 2007.

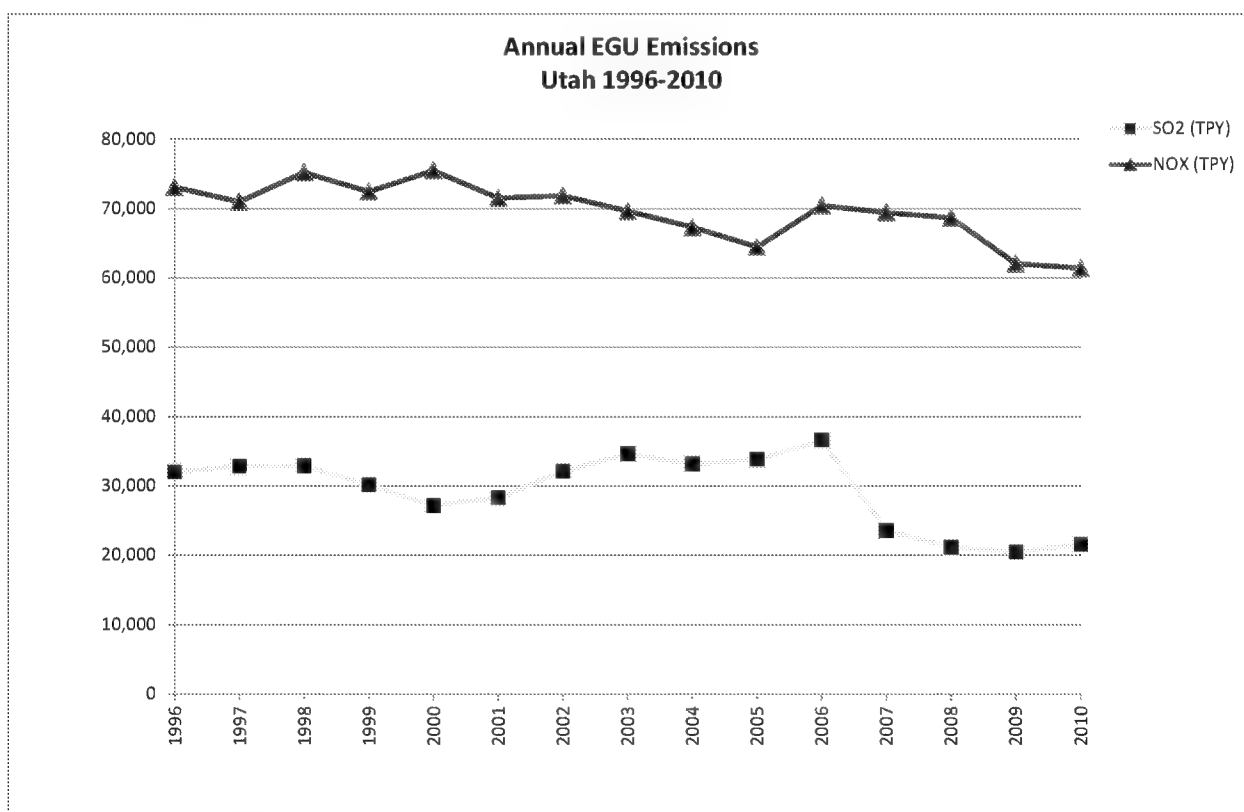


Figure 6.13-17. Sum of EGU Emissions of SO₂ and NO_x reported between 1996 and 2010 for Utah.

PROGRESS REPORT FOR UTAH'S STATE IMPLEMENTATION PLAN FOR REGIONAL HAZE

May 18, 2015

Prepared by staff of the:

**Utah Division of Air Quality
Utah Department of Environmental Quality
195 N 1950 W
Salt Lake City, UT 84114**

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1.0 INTRODUCTION

On December 12, 2003, the State of Utah submitted a Regional Haze State Implementation Plan (RH SIP) to meet the requirements of 40 CFR 51.309 (309 SIP) to improve visibility in Utah's five Federal Class I Areas. The 2003 version of the 309 SIP and subsequent revisions to it addressed the first phase of requirements, with an emphasis on stationary source sulfur dioxide (SO₂) emission reductions, smoke management, and a focus on improving visibility on the Colorado Plateau.

On December 14, 2012, the EPA approved the majority of Utah's RH SIP, but disapproved several SIP provisions, which included the BART determination for nitrogen oxide (NO_x) and particulate matter (PM)¹. The Utah Air Quality Board proposed a revision to the RH SIP on March 4, 2015 to address EPA's concerns and is expected to take final action on the proposal in June, 2015. The previous BART determination has been fully implemented and significant emission reductions of NO_x, SO₂, and PM have already been achieved.

1.1 State Implementation Plan Requirements for the 5-Year Progress Report

Provisions of the Regional Haze (RH) rule contained in 40 CFR §51.309(d)(10) require that each state submit a progress report five years after the submittal of their initial RH SIP. The progress report must be in the form of a SIP revision and must include a determination regarding the adequacy of the existing regional haze SIP. This report has been prepared to fulfill all applicable requirements pertaining to the first five-year progress report.

The progress report SIP must include 1) the status for implementation of control measures included in the original regional haze SIP, 2) a summary of emission reductions achieved through the implementation of control measures, 3) an assessment of visibility conditions, 4) an analysis of the changes in emission pollutants, 5) an assessment of significant changes in emissions that may have limited or impeded progress in improving visibility, 6) an assessment of whether the current SIP elements and strategies are sufficient to meet reasonable progress goals and 7) a review of the State's visibility monitoring strategy.

The technical data included in this progress report are from the "*Western Regional Air Partnership Regional Haze Rule Reasonable Progress Summary Report*" (Appendix A) developed by the Western Regional Air Partnership (WRAP)² in June of 2013 and the WRAP Technical Support System (TSS). The WRAP progress report technical support document (TSD) was prepared on behalf of the 15 western state members in the WRAP region. It serves as the technical basis for use by states to develop the first of their individual reasonable progress reports for the 116 Federal Class I areas located in the western states. Data are presented in this report on a regional, state, and Class I area-specific basis that characterize the difference between 2000-2004 baseline conditions and current conditions, represented here by the most recent successive 5-year average. The WRAP progress report TSD was focused on the first 5-year period, 2005-2009, and therefore the monitoring and emission inventory data reflect that time period. Changes in visibility impairment are characterized using aerosol measurements from the IMPROVE network (the

¹ 77 FR 74355, December 14, 2012.

² The WRAP is a collaborative effort of tribal governments, state governments and various federal agencies representing the western states that provides technical and policy tools for the western states and tribes to comply with the EPA's RH regulations. Detailed information regarding WRAP support of air quality management issues for western states is provided on the WRAP website, www.wrapair2.org. Data summary descriptions and tools specific to RHR support are available on the WRAP Technical Support System website, <http://vista.cira.colostate.edu/tss/>.

primary monitoring network for regional haze, both nationwide and in Utah), and the differences between emissions inventory years represent both the baseline and current progress period.

The State of Utah intends to consult with federal land managers as required under 40 CFR §51.308(i) during the development of the RH SIP for the next planning period that is due in 2018. The State of Utah reaffirms its commitment to participate in a regional planning process with Alaska, Arizona, California, Colorado, Idaho, Montana, New Mexico, North Dakota, Oregon, South Dakota, Washington, Wyoming, the United States Department of Interior (USDI) Fish and Wildlife Services (FWS) and National Park Services (NPS), and the United States Department of Agriculture (USDA) Forest Service (FS).

Pursuant to the Tribal Authority Rule, any tribe whose lands are within the boundaries of the State of Utah has the option to develop a RH Tribal Implementation Plan (TIP) for their lands to assure reasonable progress in the five Class I areas in Utah. Accordingly, no provisions of this periodic report shall be construed as being applicable to Indian Country.

2.0 UTAH CLASS I AREAS

Utah has five Federal Class I areas within its borders: Arches National Park, Bryce Canyon National Park, Canyonlands National Park, Capitol Reef National Park, and Zion National Park. All five of Utah's Federal Class I areas are located on the Colorado Plateau (Figure 2.1).

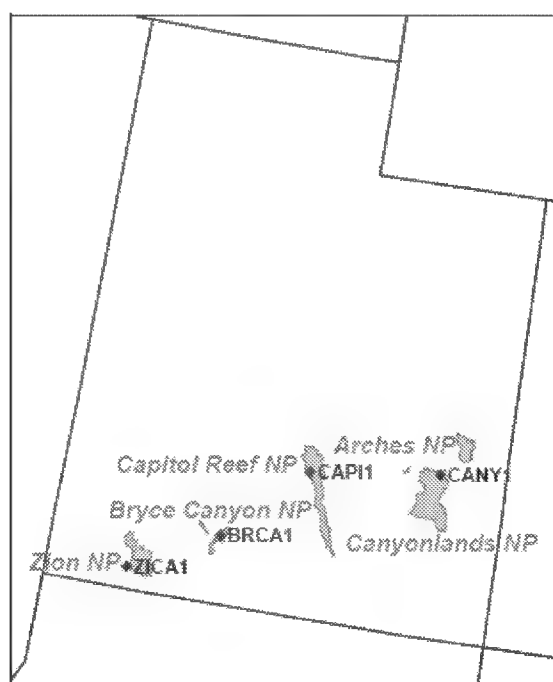


Figure 2.1. Map Depicting Federal Class I Areas and Representative IMPROVE Monitors in Utah

Utah's Department of Environmental Quality's (DEQ) Division of Air Quality (DAQ) is responsible for developing the RH progress report. This progress report compares the current visibility conditions at each of these Class I areas to the 2018 reasonable progress goals to determine if Utah is on track to reach these goals. The progress report also reviews the long-term strategy to determine if there have been any changes that need to be addressed.

In developing the initial RH SIP, DAQ also considered that emission sources outside of Utah may affect the visibility at Utah's Class I areas, and that emission sources within Utah may affect the visibility at Class I areas in neighboring states. Through WRAP, the western states worked together to assess state-by-state contributions to visibility impairment in specific Class I areas, including those in Utah and those affected by emissions from Utah. The sources identified in the initial RH SIP either impacting Utah's Class I areas or Class I areas outside Utah will be reviewed as part of this progress report.

2.1 Progress Towards Reasonable Progress Goals (40 CFR §51.309(d)(10(i))

Based on IMPROVE monitoring data for the first progress period 2005-2009, all of Utah's Class I areas show visibility improvement on the 20% least impaired days, while on the 20% most impaired days, three areas (Arches, Canyonlands and Zion National Parks) show visibility improvement and two areas (Bryce Canyon and Capitol Reef National Parks) do not. The largest contributor to increases at these sites was particulate organic mass which was associated with large fire events in July and August of 2009. These increases were offset by decreases in ammonium nitrate and ammonium sulfate. The most recent 5-year average 2009-2013 shows visibility improvement at all five Class I areas on both the 20% best and the 20% worst days.

The baseline and current visibility conditions as well as the reasonable progress goals for 2018 for the 20% worst and 20% best days are displayed in Table 2.1.

Table 2.1. Utah Class I Area IMPROVE Sites Visibility Conditions for the 20% Most and Least Impaired days.

Class I Area	Baseline (2000-2004) (dv)	Current (2005-2009) (dv)	(2011-2013) (dv)	2018 Preliminary Reasonable Progress Case (PRP18a) (dv)
20% Worst Days				
Arches NP (CANY1)	11.2	11.0	10.8	10.9
Bryce Canyon NP (BRCA1)	11.6	11.9	10.6	11.2
Canyonlands NP (CANY1)	11.2	11.0	10.8	10.9
Capitol Reef NP (CAPI1)	10.9	11.3	10.2	10.5
Zion NP (ZICA1)	12.5 ³	12.3	10.8 ⁴	N/A ⁵
20% Best Days				
Arches NP (CANY1)	3.7	2.8	3.1	3.5
Bryce Canyon NP (BRCA1)	2.8	2.1	1.8	2.6
Canyonlands NP (CANY1)	3.7	2.8	3.1	3.5
Capitol Reef NP (CAPI1)	4.1	2.7	2.6	3.9
Zion NP (ZICA1)	5.0 ³	4.3	4.2 ⁴	N/A ⁵

3.0 REGIONAL HAZE PROGRESS REPORT

The requirements for regional haze progress reports are outlined in 51.309(d)(10)(i). The progress report for Section 309 RH SIPs must be in the form of a formal SIP submittal and at a minimum must contain the following elements:

3.1 40 CFR § 51.309(D)(10)(i) Progress Report Requirements

(A) A description of the status of implementation of all measures included in the SIP for achieving reasonable progress goals for mandatory Class I Federal areas both within and outside the state.

(B) A summary of the emission reductions achieved throughout the state through implementation of the measures described in (A) above.

(C) For each mandatory Class I Federal area within the state, an assessment of the following: the current visibility conditions for the most impaired and least impaired days; the difference between current visibility conditions for the most impaired and least impaired days and baseline visibility conditions; and the change in visibility impairment for the most impaired and least impaired days over the past 5 years.

(D) An analysis tracking the change over the past 5 years in emissions of pollutants contributing to visibility impairment from all sources and activities with the state. Emissions changes should be

³ The monitor originally intended to represent Zion National Park was the ZION1 IMPROVE monitor, which began operation in 2000. In 2003, a second site, ZICA1, was established approximately 19 miles from the original ZION1 monitor. The second site was installed in part because elevated ammonium nitrate at the original site was influenced by mobile sources from the interstate highway that were not representative of park conditions. Section 6.13.1.1 in the WRAP Report (Appendix A) describes how the baseline for the ZICA1 was determined.

⁴ Includes 2009-10 and 2012-13 data only; there were no results available for 2011.

⁵ There is no PRP18a established for the new ZICA1 monitor. The PRP18a was originally established for the original ZION1 IMPROVE monitor, which was discontinued on July 29, 2004.

identified by type of source or activity. The analysis must be based on the most recent updated emissions inventory, with estimates projected forward as necessary and appropriate, to account for emissions changes during the applicable 5-year period.

(E) An assessment of any significant changes in anthropogenic emissions within or outside the state that have occurred over the past 5 years that have limited or impeded progress in reducing pollutant emissions and improving visibility.

(F) An assessment of whether the current SIP elements and strategies are sufficient to enable the state, or other states with mandatory Federal Class I areas affected by emissions from the state, to meet all established reasonable progress goals.

(G) A review of the state's visibility monitoring strategy and any modifications to the strategy as necessary.

In the sections to follow, the Utah DAQ will address the various periodic review requirements as outlined above.

3.2 Status of Implementation Control Measures: 40 CFR §51.309(d)(10)(i)(A)

40 CFR §51.309(d)(10)(i)(A) requires “a description of the status of implementation of all measures included in the implementation plan for achieving reasonable progress goals for mandatory Class I Federal areas both within and outside the State.”

This section provides a description of the emission reduction measures that were included in the State of Utah's Section 309 RH SIP. A summary of the most significant emission reduction strategies and the status of controls is provided below.

Utah has been and continues to be committed to implementing the long-term strategies adopted into the state's Section 309 RH SIP. The implementation status of these emission reduction measures are described below.

SO₂ Milestone and Backstop Trading Program

As a 309 state, Utah continues to participate in the Regional SO₂ Milestone and Backstop Trading Program. Utah has been participating in this program since 2003, and in March of 2015, submitted the annual Regional SO₂ Emissions and Milestone Report for 2013. The report shows that the regional SO₂ emissions of 105,402 tons were below the 2013 milestone of 185,795 tons. Further information on emissions reductions from this program are summarized in Section 3.3 of this report.

The Regional SO₂ Emissions and Milestone Report for 2012 contained the year 2013 assessment as required by Section XX.E.1.d of Utah's SIP. The report determined that it was not necessary to trigger the backstop trading program early because the 2018 milestone had already been met by 2011.

3.4 Assessment of Visibility Conditions: 40 CFR § 51.309(d)(10)(i)(C)

40 CFR § 51.309(d)(10)(i)(C) requires “for each mandatory Class I Federal area within the State, the State must assess the following visibility conditions and changes, with values for most impaired and least impaired days expressed in terms of 5-year averages of these annual values

The current visibility conditions for the most impaired and least impaired days;

The difference between current visibility conditions for the most impaired and least days and baseline visibility conditions;

The changes in visibility impairment for the most impaired and least impaired days over the past 5-years.”

This section addresses RH rule regulatory requirements for monitored data as measured by IMPROVE monitors representing Federal Class I areas in Utah.

Regional haze progress in Federal Class I areas is tracked using calculations based on speciated aerosol mass as collected by IMPROVE monitors. The RH rule calls for tracking haze in units of deciviews, where the deciview metric was designed to be linearly associated with human perception of visibility. In a pristine atmosphere, the deciview metric is near zero, and a one deciview change is approximately equivalent to a 10% change in cumulative species extinction. To better understand visibility conditions, summaries here include both the deciview metric and the apportionment of haze into extinction due to the various measured species in units of inverse megameters (Mm^{-1}).

3.4.1 Current Visibility Conditions for the Most and Least Impaired Days

EPA guidance for the 2003 RH SIP specifies that 5-year averages be calculated over successive 5-year periods; i.e., 2000-2004, 2005-2009, 2010-2014, etc.⁹ EPA’s Guidance¹⁰ for the first progress report specifies that current visibility conditions be reported for the most recent 5 years of data available. Therefore, for this report, Utah is presenting information for 2005-2009 as well as 2009-13. The information and data presented in this section are from that “*Western Regional Air Partnership Regional Haze Rule Reasonable Progress Summary Report*” (Appendix A), supplemented by more recent data compiled by the Division of Air Quality from the WRAP TSS.

Tables 3.5 and 3.6 present the calculated deciview values for current conditions at each site, along with the percent contribution to extinction from each aerosol species for the 20% worst and best days for each of the Federal Class I area IMPROVE monitors in Utah. Appendix M of the WRAP Progress Report includes figures that represent the annual and 5-year period averages for the 20% most and least impaired visibility days at each IMPROVE site from 2000 to 2010.

Figure 3.7 presents 5-year average extinction for the first progress period and current conditions for both the 20% worst and best days. Note that the percentages in the tables consider only the aerosol species which contribute to extinction, while the charts also show Rayleigh, or scattering due to background gases

⁹ EPA’s September 2003 *Guidance for Tracking Progress Under the Regional Haze Rule* specifies that progress is tracked against the 2000-2004 baseline period using corresponding averages over successive 5-year periods; i.e., 2005-2009, 2010-2014, etc. (see page 4-2 in the Guidance document).

¹⁰ *General Principles for the 5-Year Regional Haze Progress Reports for the Initial Regional Haze State Implementation Plans (Intended to Assist States and EPA Regional Offices in Development and Review of the Progress Reports)*, US Environmental Protection Agency, April 2013.

in the atmosphere. Specific observations for the current visibility conditions on the 20% most impaired days are as follows:

- The largest contributors to aerosol extinction at Utah sites were particulate organic mass, ammonium sulfate and coarse mass.
- The highest aerosol extinction in the first progress period (12.3 dv) was measured at the ZICA1 site, where particulate organic mass was the largest contributor to aerosol extinction, followed by coarse mass.
- The lowest aerosol extinction (11.0 dv) in the first progress period was measured at the CANY1 site.

Specific observations for the current visibility conditions on the 20% least impaired days are as follows:

- The aerosol contribution to total extinction on the best days was less than Rayleigh, or the background scattering that would occur in clean air.
- Average extinction (including Rayleigh) ranged from 2.1 dv (BRCA2) to 4.3 dv (ZICA1).
- For all sites, ammonium sulfate was the largest contributor to the non-Rayleigh aerosol species of extinction.

Table 3.5, Utah Class I Area IMPROVE Sites
Current Visibility Conditions, 20% Most Impaired Days

2005-2009 Progress Period

Site	Deciviews (dv)	Percent Contribution to Aerosol Extinction by Species (Excludes Rayleigh) (% of Mm^{-1}) and Rank*						
		Ammonium Sulfate	Ammonium Nitrate	Particulate Organic Mass	Elemental Carbon	Soil	Coarse Mass	Sea Salt
BRCA1	11.9	19% (2)	9% (5)	45% (1)	10% (4)	5% (6)	12% (3)	0% (7)
CANY1	11.0	23% (2)	14% (4)	27% (1)	7% (5)	7% (6)	20% (3)	0% (7)
CAPI1	11.3	24% (2)	12% (4)	32% (1)	8% (5)	7% (6)	17% (3)	0% (7)
ZICA1	12.3	21% (3)	7% (5)	33% (1)	9% (4)	7% (6)	22% (2)	0% (7)

*Highest aerosol species contribution per site is highlighted in bold.

2009-13 Current Conditions

Site	Deciviews (dv)	Percent Contribution to Aerosol Extinction by Species (Excludes Rayleigh) (% of Mm^{-1}) and Rank*						
		Ammonium Sulfate	Ammonium Nitrate	Particulate Organic Mass	Elemental Carbon	Soil	Coarse Mass	Sea Salt
BRCA1	10.6	20%	9%	42%	8%	5%	14%	1%
CANY1	10.8	21%	18%	26%	6%	6%	22%	0%
CAPI1	10.2	25%	15%	29%	6%	7%	18%	1%
ZICA1	10.8	23%	7%	24%	6%	9%	30%	1%

*Highest aerosol species contribution per site is highlighted in bold.

**Table 3.6, Utah Class I Area IMPROVE Sites
Current Visibility Conditions, 20% Least Impaired Days**

2005-2009 Progress Period

Site	Deciviews (dv)	Percent Contribution to Aerosol Extinction by Species (Excludes Rayleigh) (% of Mm^{-1}) and Rank						
		Ammonium Sulfate	Ammonium Nitrate	Particulate Organic Mass	Elemental Carbon	Soil	Coarse Mass	Sea Salt
BRCA1	2.1	40% (1)	15% (3)	22% (2)	7% (5)	4% (6)	11% (4)	1% (7)
CANY1	2.8	43% (1)	12% (4)	15% (3)	7% (5)	5% (6)	17% (2)	1% (7)
CAPI1	2.7	38% (1)	13% (4)	21% (2)	8% (5)	5% (6)	14% (3)	1% (7)
ZICA1	4.3	30% (1)	11% (4)	23% (2)	10% (5)	6% (6)	18% (3)	1% (7)

*Highest aerosol species contribution per site is highlighted in bold.

2009-2013 Current Conditions

Site	Deciviews (dv)	Percent Contribution to Aerosol Extinction by Species (Excludes Rayleigh) (% of Mm^{-1}) and Rank *						
		Ammonium Sulfate	Ammonium Nitrate	Particulate Organic Mass	Elemental Carbon	Soil	Coarse Mass	Sea Salt
BRCA1	1.8	43%	15%	20%	6%	4%	11%	0%
CANY1	3.1	41%	12%	17%	6%	6%	18%	1%
CAPI1	2.6	40%	13%	20%	7%	5%	16%	1%
ZICA1	4.3	32%	13%	22%	8%	6%	18%	1%

*Highest aerosol species contribution per site is highlighted in bold.

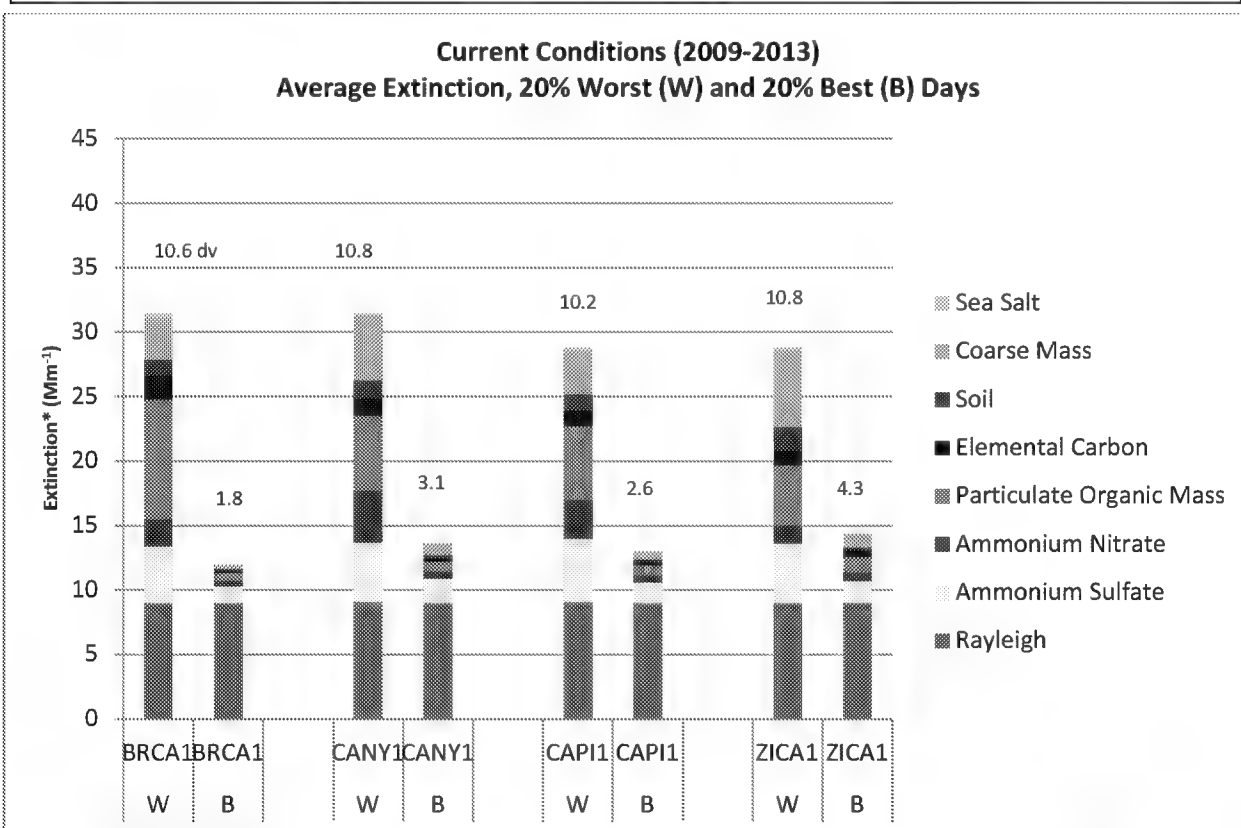
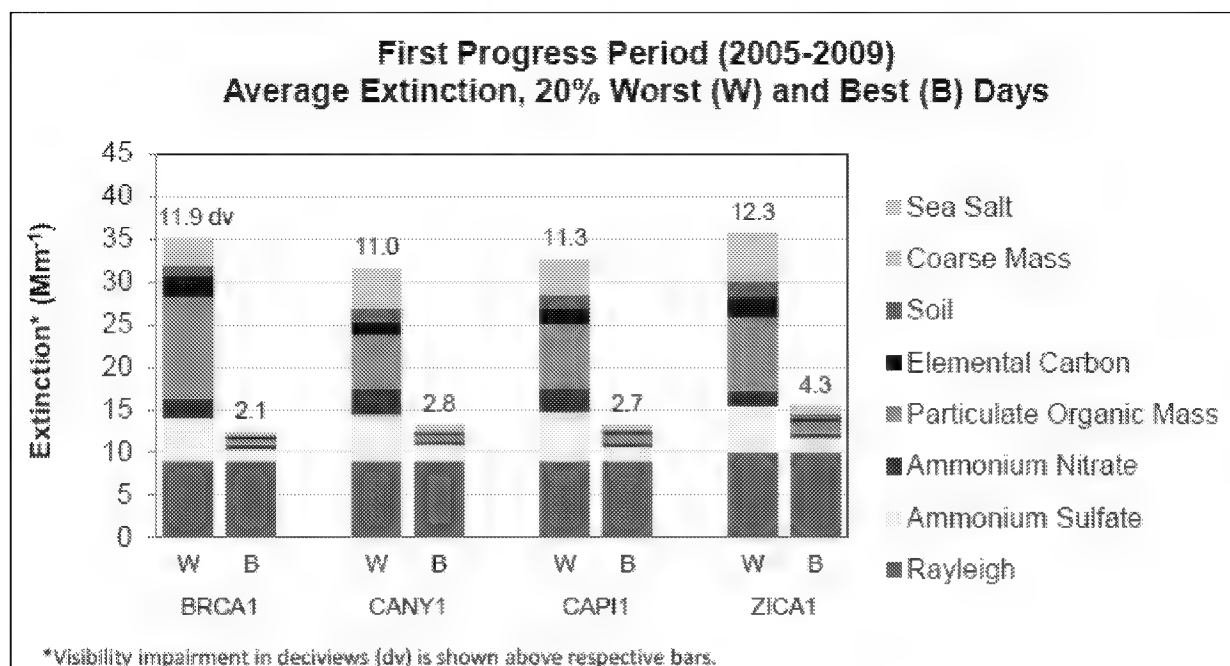


Figure 3.7. Average Extinction for Current Progress Period (2005-2009) for the Worst (Most Impaired) and Best (Least Impaired) Days Measured at Utah Class I Area IMPROVE Sites

3.4.2 Differences Between Current Visibility Conditions for the Most and Least Impaired Days and Baseline Visibility Conditions

Included here are comparisons between the 5-year average baseline conditions (2000-2004), the first progress period (2005-2009), and the most recent 5-year period (2009-2013) extinction.

Table 3.7 presents the differences between the 2000-2004 baseline period average extinction and both the 2005-2009 progress period average and the current 5-year average (2009-2013) for each site in Utah for the 20% most impaired days, and Table 3.8 presents similar data for the least impaired days. Averages that increased are depicted in red text, and averages that decreased are depicted in blue.

Figure 3.8 presents the 5-year average extinction for the baseline, first progress period, and current 5-year average for the worst days, and Figure 3.9 presents the differences in averages by aerosol species, with increases represented above the zero line and decreases below the zero line. Figures 3.10 and 3.11 present similar plots for the best days.

For the 20% most impaired days, the 5-year average Regional Haze Rule (RHR) deciview metric increased between the 2000-2004 and 2005-2009 periods at the BRCA1 and CAPI1 sites and decreased at the CANY1 and ZICA1 sites. The most recent 5-year average shows a decrease at all Class I areas. Notable differences for individual species averages were as follows:

Increases in 5-year average deciviews at the BRCA1 and CAPI1 sites during the first progress period were mostly due to increases in particulate organic mass, with some increases also measured in elemental carbon and soil. Coarse mass also contributed to increases at the CAPI1 site. Increases were offset by decreases in ammonium nitrate and ammonium sulfate at both sites. Ammonium sulfate decreased at all sites except ZICA1 during the first progress period but by 2009-2013 decreased at all sites. Note that data was not collected at the ZICA site during the baseline years, and changes reported here are proportional to average changes in extinction as measured at regional sites.

Increases in ammonium nitrate at CANY1 may be due to decreases in SO₂ emissions that reduce the formation of ammonium sulfate and therefore result in an increase in ammonium nitrate in ammonia limited conditions.

For the 20% least impaired days, the 5-year average deciview metric decreased at all sites. Notable differences for individual species averages on the 20% least impaired days were as follows:

All species at all sites either decreased or stayed the same on the best days between the baseline and both the first progress period and the most recent 5-year average. The largest decreases on the best days were measured in particulate organic mass, ammonium nitrate, ammonium sulfate, and coarse mass.

Table 3.7 Utah Class I Area IMPROVE Sites
Difference in Aerosol Extinction by Species, 2000-2004 Baseline Period to 2005-2009 Progress Period and
Current Conditions, 20% Most Impaired Days

2005-2009 Progress Period

Site	Deciview (dv)			Change in Extinction by Species (Mm ⁻¹)*						
	2000-04 Baseline Period	2005-09 Progress Period	Change in dv*	Amm. Sulfate	Amm. Nitrate	POM	EC	Soil	CM	Sea Salt
BRCA1	11.6	11.9	+0.3	-0.2	-0.3	+2.5	+0.2	+0.1	-0.9	0.0
CANY1	11.2	11.0	-0.2	-0.3	+0.3	-0.9	-0.1	+0.1	+0.8	0.0
CAPI1	10.9	11.3	+0.4	-0.2	-0.7	+1.8	+0.2	+0.3	+0.7	+0.1
ZICA1	12.5	12.3	-0.2	+0.2	-0.3	-0.8	-0.1	+0.1	0.0	+0.1

*Change is calculated as progress period average minus baseline period average. Values in red indicate increases in extinction and values in blue indicate decreases.

Current Conditions 2009-2013

Site	Deciview (dv)			Change in Extinction by Species (Mm ⁻¹)*						
	2000-04 Baseline Period	2009-13 Current Conditions	Change in dv*	Amm. Sulfate	Amm. Nitrate	POM	EC	Soil	CM	Sea Salt
BRCA1	11.6	10.6	-1.0	-0.8	-0.4	0.0	-0.5	0.0	-0.8	0.2
CANY1	11.2	10.8	-0.4	-1.0	1.0	-1.3	-0.4	-0.1	1.2	0.1
CAPI1	10.9	10.2	-0.7	-1.0	-0.5	-0.1	-0.4	0.0	0.1	0.1
ZICA	12.5	10.8	-1.7	-0.6	-0.8	-4.6	-1.3	0.1	0.4	0.0

*Change is calculated as current conditions average minus baseline period average. Values in red indicate increases in extinction and values in blue indicate decreases.

Table 3.8 Utah Class I Area IMPROVE Sites
Difference in Aerosol Extinction by Species, 2000-2004 Baseline Period to 2005-2009 Progress Period
20% Least Impaired Days

2005-2009 Progress Period

Site	Deciview (dv)			Change in Extinction by Species (Mm ⁻¹)*						
	2000-04 Baseline Period	2005-09 Progress Period	Change in dv*	Amm. Sulfate	Amm. Nitrate	POM	EC	Soil	CM	Sea Salt
BRCA1	2.8	2.1	-0.7	-0.1	-0.2	-0.3	-0.2	0.0	-0.1	0.0
CANY1	3.7	2.8	-0.9	-0.3	-0.1	-0.5	-0.1	-0.1	-0.2	0.0
CAPI1	4.1	2.7	-1.4	-0.3	-0.4	-0.5	-0.3	-0.1	-0.4	0.0
ZICA1	5.0	4.3	-0.7	-0.1	-0.2	-0.5	-0.2	0.0	-0.1	0.0

*Change is calculated as progress period average minus baseline period average. Values in red indicate increases in extinction and values in blue indicate decreases.

Current Conditions 2009-2013

	Deciview (dv)			Change in Extinction by Species (Mm ⁻¹)*						
	2000-04 Base line Period	2009-13 Current Conditions	Change in dv*	Amm. Sulfate	Amm. Nitrate	POM	EC	Soil	CM	Sea Salt
BRCA1	2.8	1.8	-1.0	-0.2	-0.2	-0.4	-0.2	0.0	-0.2	0.0
CANY1	3.7	3.1	-0.6	-0.3	0.0	-0.3	-0.2	-0.1	-0.1	0.0
CAPI1	4.1	2.6	-1.5	-0.3	-0.5	-0.6	-0.3	-0.1	-0.3	0.0
ZICA	5.0	4.3	-0.7	-0.1	-0.1	-0.6	-0.4	0.0	-0.1	0.0

*Change is calculated as current conditions average minus baseline period average. Values in red indicate increases in extinction and values in blue indicate decreases.

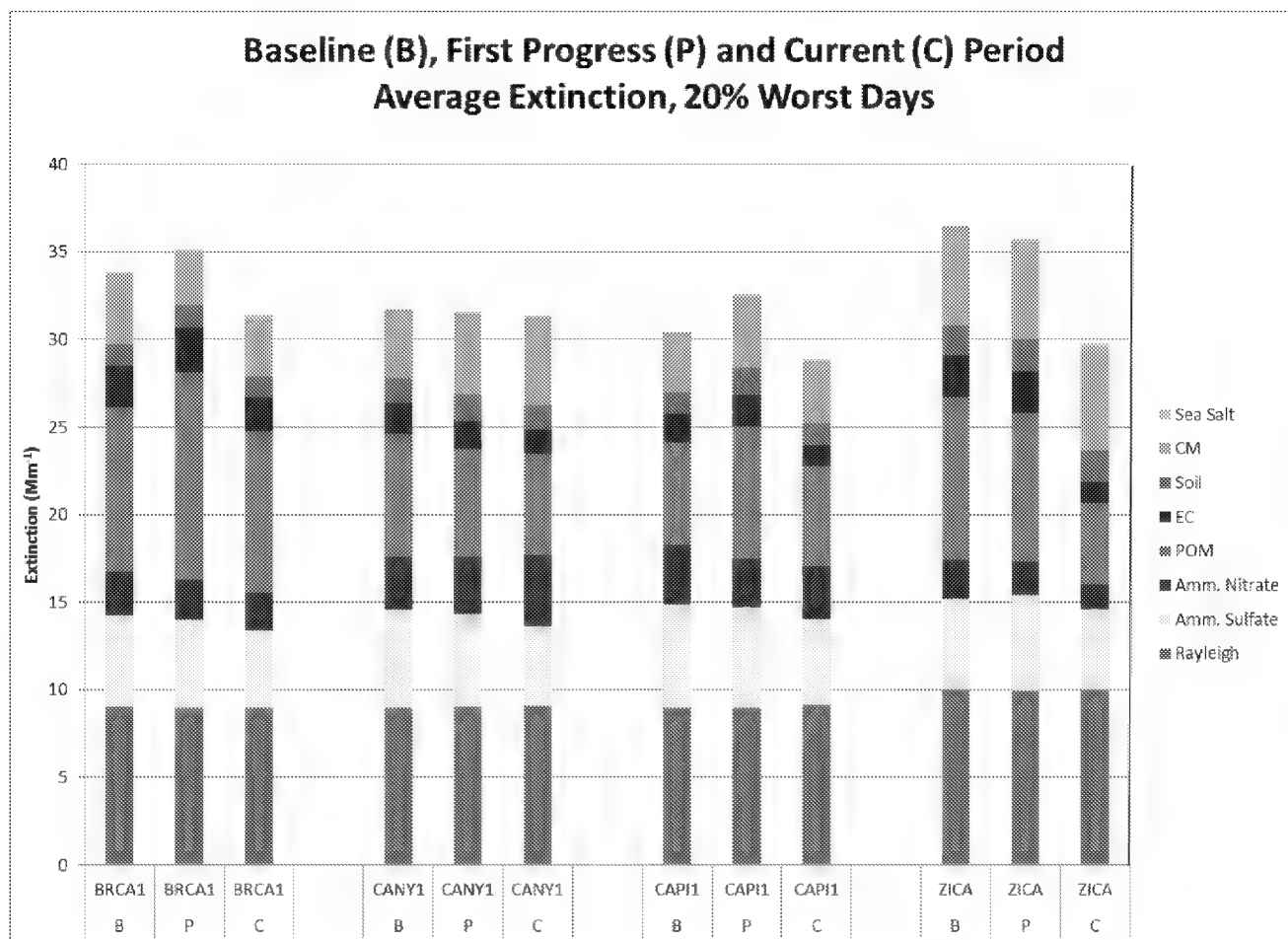


Figure 3.8. Average Extinction for Baseline, Progress Period, and Current Conditions Extinction for Worst (Most Impaired) Days Measured at Utah Class I Area IMPROVE Sites.

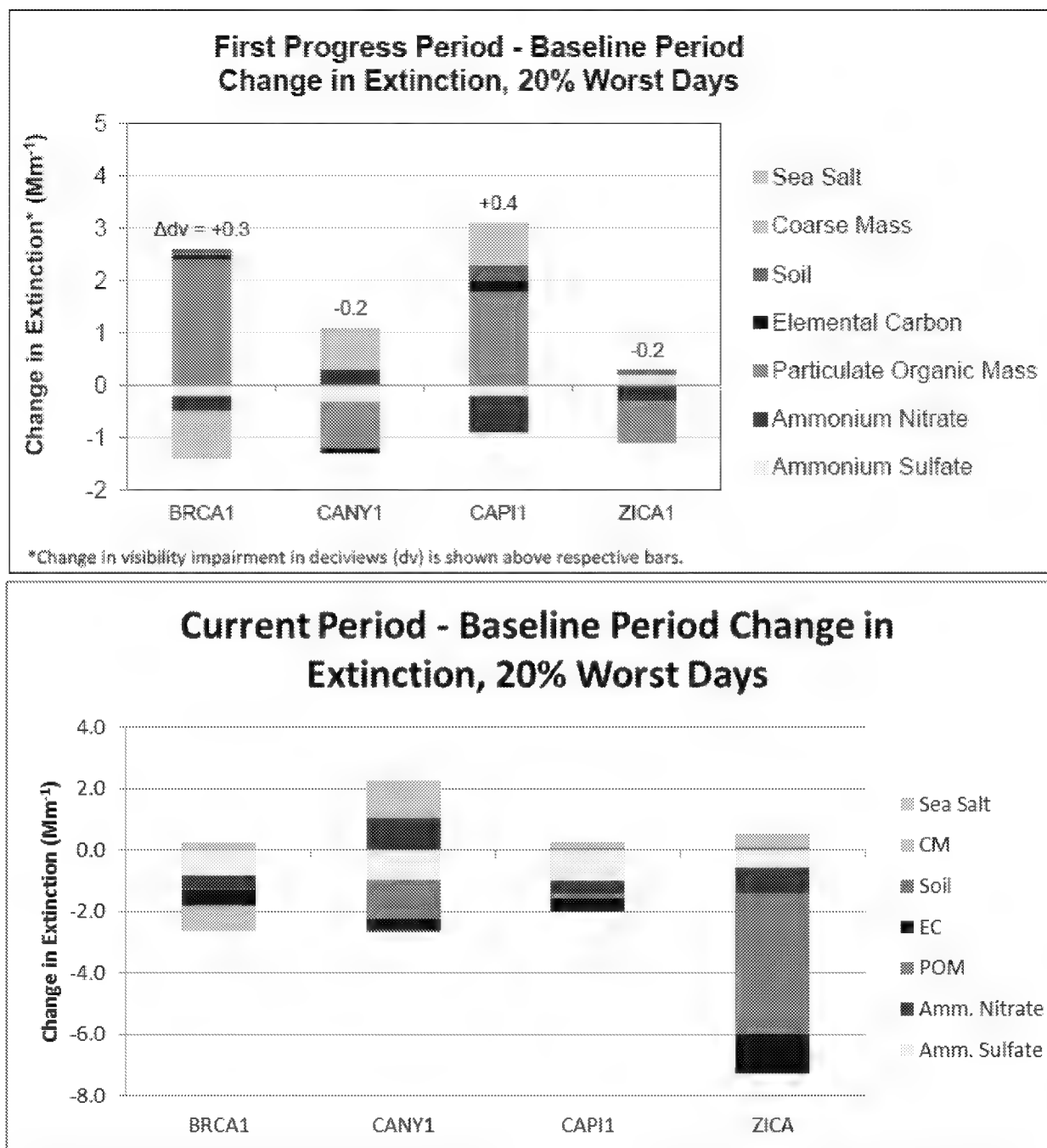


Figure 3.9. Difference between Average Extinction for Current Progress Period (2005-2009) and Baseline Period (2000-2004) for the Worst (Most Impaired) Days Measured at Utah Class I Area IMPROVE Sites.

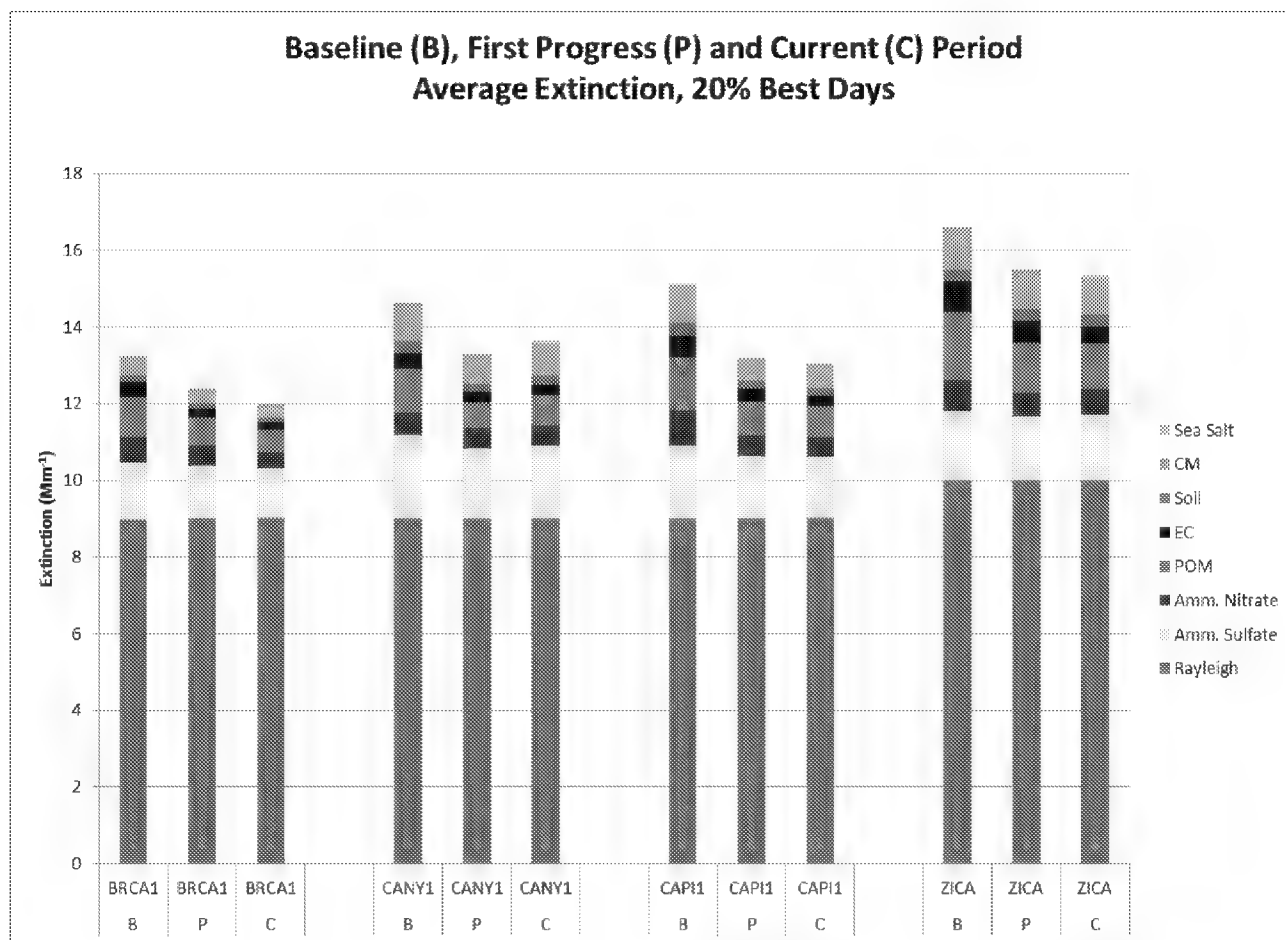


Figure 3.10. Average Extinction for Baseline and Progress Period Extinction for Best (Least Impaired) Days Measured at Utah Class I Area IMPROVE Sites

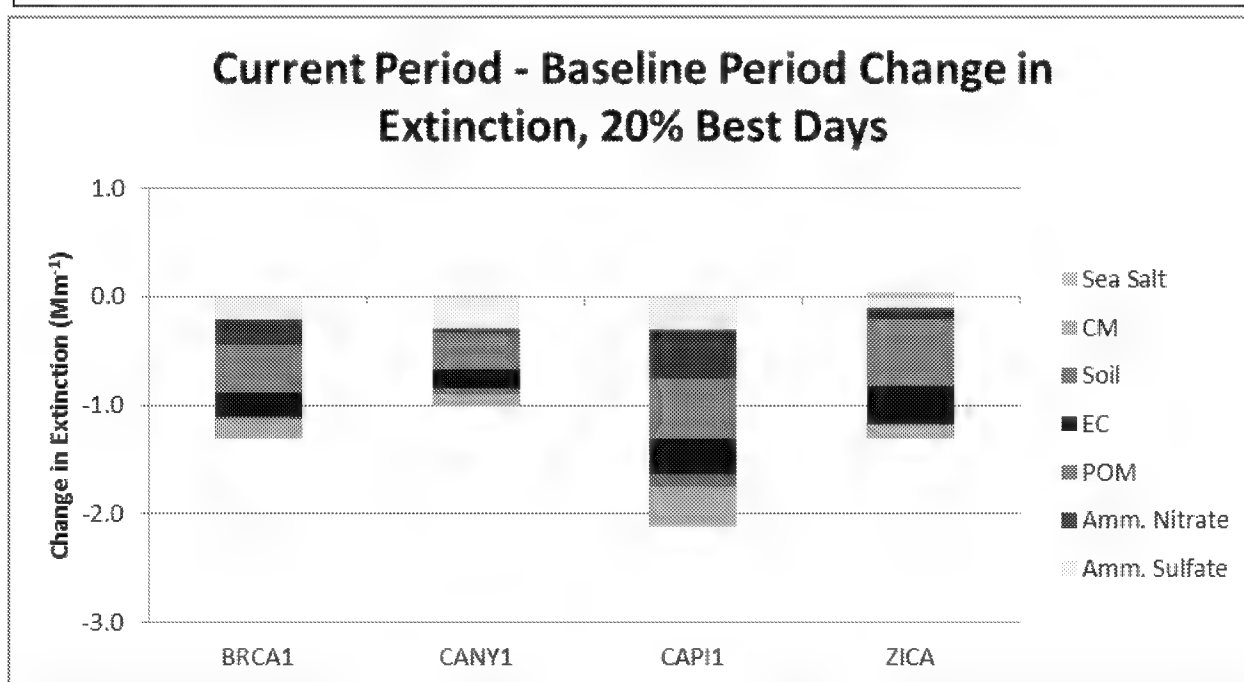
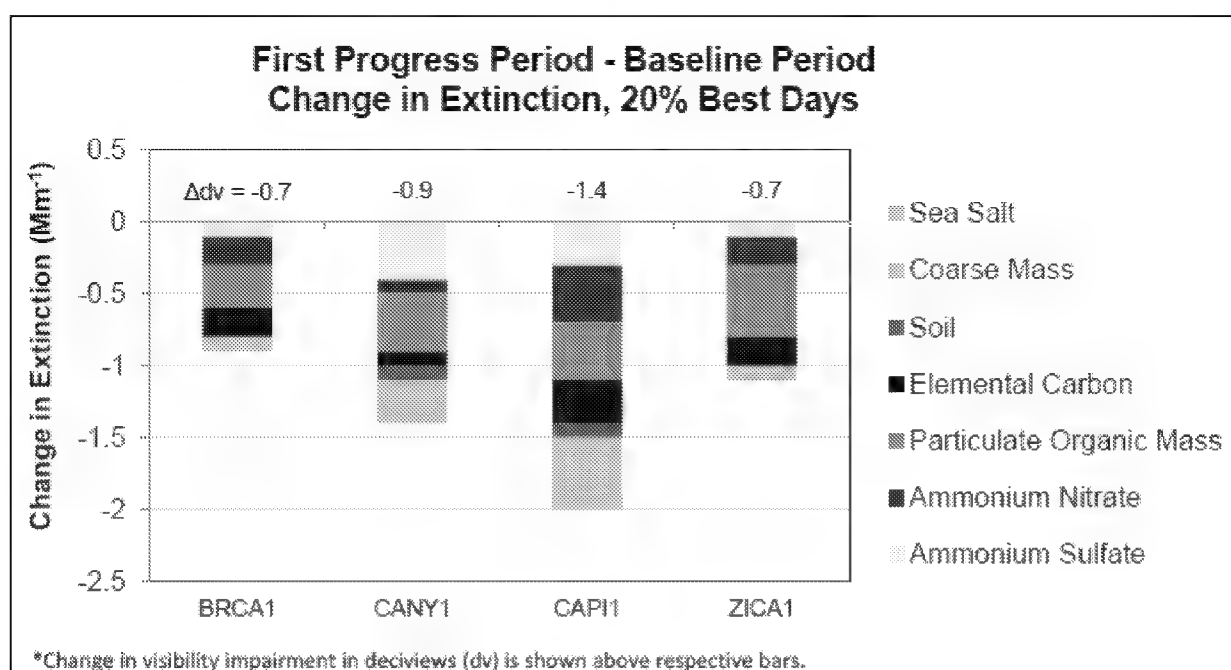


Figure 3.11. Difference Between Average Extinction for Current Progress Period (2005-2009) and Baseline Period (2000-2004) for the Best (Least Impaired) Days Measured at Utah Class I Area IMPROVE Sites

3.6 Changes to Anthropogenic Emissions: § 51.309(d)(10)(i)(E)

40 CFR §51.309(d)(10)(i)(E) requires *an assessment of any significant changes in anthropogenic emissions within or outside the State that have occurred over the past 5 years that have limited or impeded progress in reducing pollutant emissions and improving visibility.*”

Table 3.27 displays the average light extinction for the 20% worst days over the 5-year period 2005 through 2009 for all Class I areas in Utah. The table demonstrates that on the 20% worst days in the Class I areas in Utah, particulate organic mass and ammonium sulfate are the major concern for visibility impairment. Appendix M includes monitoring data summaries over the 5-year period 2005-2009 for the 20% worst and best days for each Class I area in Utah.

Table 3.27. Average extinction for 20% Worst Days for the Current Progress Period of 2005-2009

Site	Deciviews (dv)	Percent Contribution to Aerosol Extinction by Species (Excludes Rayleigh) (% of Mm^{-1}) and Rank*						
		Ammonium Sulfate	Ammonium Nitrate	Particulate Organic Mass	Elemental Carbon	Soil	Coarse Mass	Sea Salt
BRCA1	11.9	19% (2)	9% (5)	45% (1)	10% (4)	5% (6)	12% (3)	0% (7)
CANY1	11.0	23% (2)	14% (4)	27% (1)	7% (5)	7% (6)	20% (3)	0% (7)
CAPI1	11.3	24% (2)	12% (4)	32% (1)	8% (5)	7% (6)	17% (3)	0% (7)
ZICA1	12.3	21% (3)	7% (5)	33% (1)	9% (4)	7% (6)	22% (2)	0% (7)

The primary sources of anthropogenic particulate organic mass in Utah include prescribed burning, vehicle exhaust, vehicle refueling, solvent evaporation (e.g., paints), food cooking, and various commercial and industrial sources. While particulate organic mass is the most significant contributor to aerosol extinction, the anthropogenic portion is small (see Table 3.23); the emissions are primarily from wildfires and these emissions are highly variable from year to year. The inventory shows increases in anthropogenic primary organic aerosols, but as described in section 3.5 there were a number of methodology changes between 2002 and 2008 so this may not reflect a real change in emissions. Anthropogenic sources of SO_2 include coal-burning power plants and other industrial sources, such as boilers, oil refineries and copper smelters. Stationary point sources account for approximately 90% of SO_2 emissions in Utah. Table 3.19 shows that SO_2 emissions declined by 42% between 2002 and 2008. Table 3.20 shows that NO_x emissions declined by 19% between 2002 and 2008. Overall, anthropogenic emissions within Utah have decreased and therefore have not limited or impeded progress in reducing pollutant emissions or improving visibility.

3.7 Assessment of Current SIP Strategy: § 51.309(d)(10)(i)(F)

40 CFR § 51.309(d)(10)(i)(F) requires “an assessment of whether the current implementation plan elements and strategies are sufficient to enable the State, or other States with mandatory Federal Class I areas affected by emissions from the State, to meet all established reasonable progress goals.”

Figures 3.21 and 3.22 show the rolling 5-year period averages for the 20% worst days and 20% best days at Utah's Class I areas. These figures demonstrate that visibility continues to improve at these Class I areas.

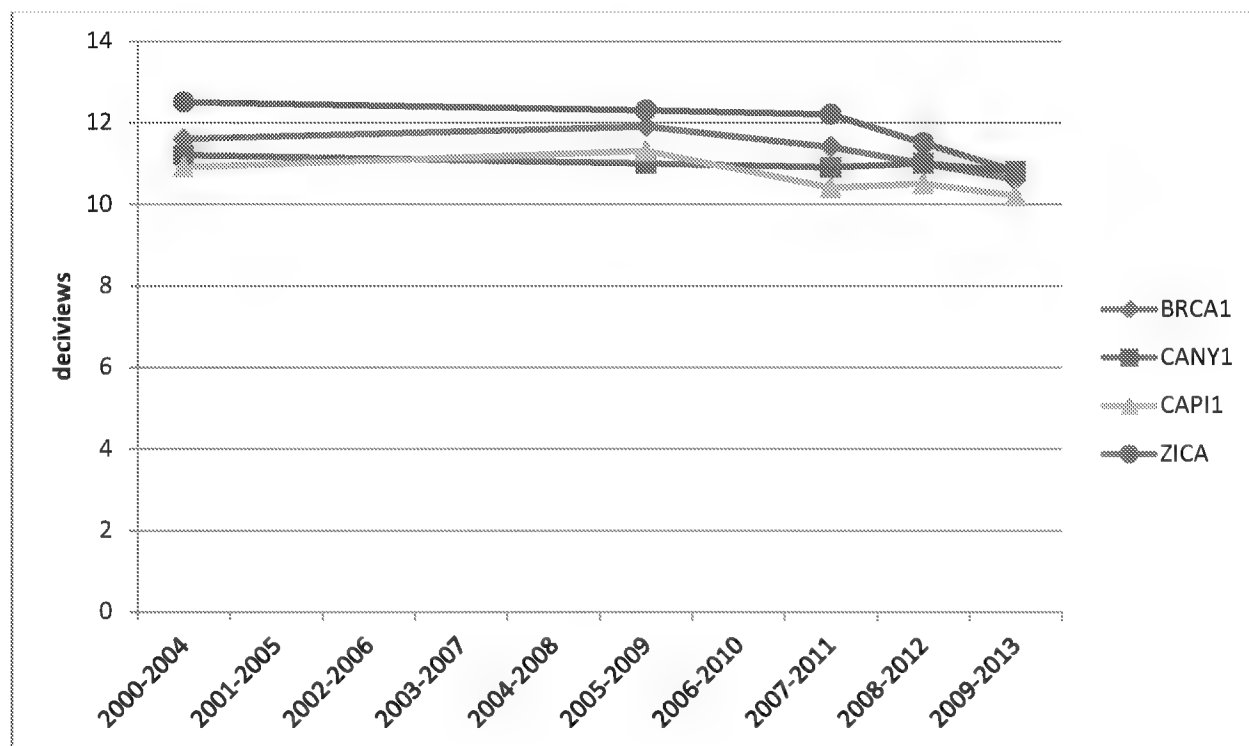


Figure 3.21. 5-Yr Rolling Trends at Utah's Class I Areas, 20% Worst Days

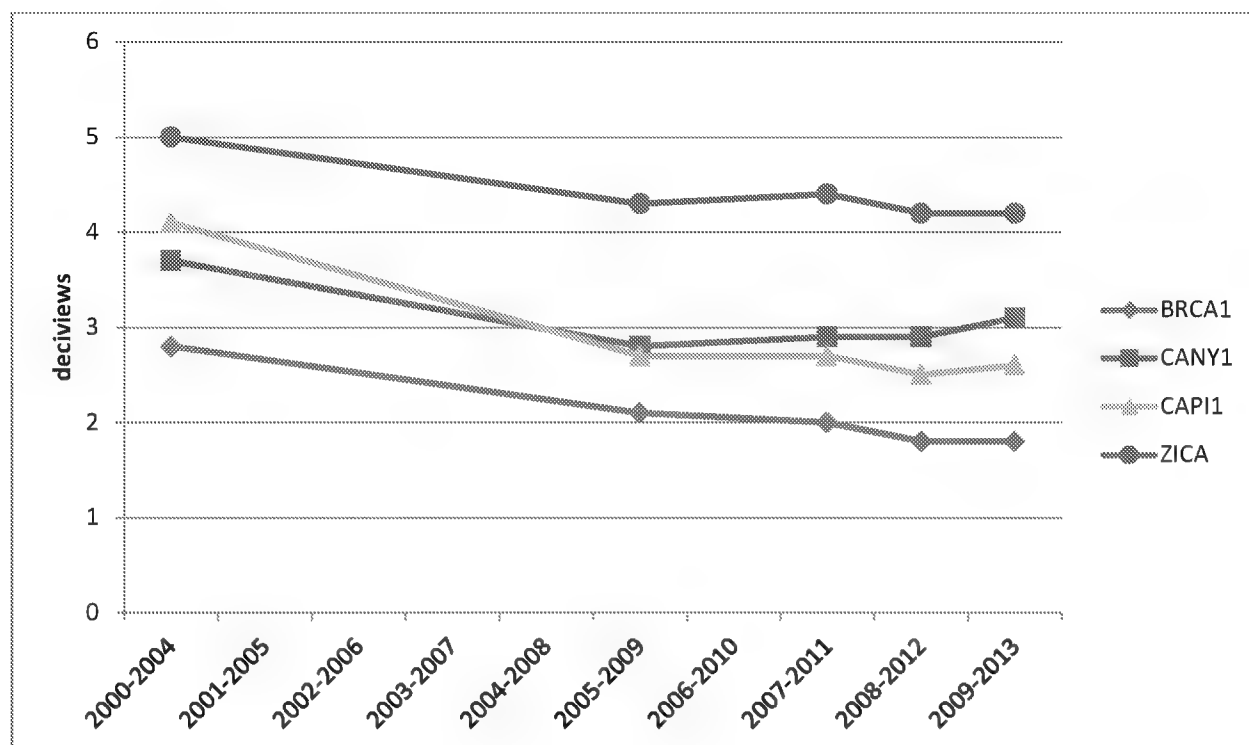


Figure 3.22. 5-Yr Rolling Trends at Utah's Class I Areas, 20% Best Days

As table 3.28 shows, Utah is showing improvement in visibility on the most impaired days and no degradation on the least impaired days between baseline and current monitoring data. The first 5-year progress period evaluated in this report covers the 2005-2009 timeframe, as it represents the most recent successive 5-year averaging period; however, the WRAP TSS has been updated to include data up through 2013. The average of the most recent 5-year average indicates that visibility at Utah's Class I areas is improving on both the 20% worst and 20% best days, and is in fact on course to exceed preliminary reasonable progress (PRP) projections for 2018.

Table 3.28. Utah Class I Area IMPROVE Sites Visibility conditions – 20% Most and Least Impaired Days Including 2010 to 2012 data

Class I Area	Baseline (2000-2004) (dv)	First Progress Period (2005-2009) (dv)	(2009-2013) (dv)	2018 Preliminary Reasonable Progress Case (PRP18a) (dv)
20% Worst Days				
Arches NP (CANY1)	11.2	11.0	10.8	10.9
Bryce Canyon NP (BRCA1)	11.6	11.9	10.6	11.2
Canyonlands NP (CANY1)	11.2	11.0	10.8	10.9
Capitol Reef NP (CAPI1)	10.9	11.3	10.2	10.5
Zion NP (ZICA1)	12.5	12.3	10.8	N/A ¹⁴
20% Best Days				
Arches NP (CANY1)	3.7	2.8	3.1	3.5
Bryce Canyon NP (BRCA1)	2.8	2.1	1.8	2.6
Canyonlands NP (CANY1)	3.7	2.8	3.1	3.5
Capitol Reef NP (CAPI1)	4.1	2.7	2.6	3.9
Zion NP (ZICA1)	5.0	4.3	4.2	N/A (see footnote 15)

The emission reduction strategies in Utah's RH SIP have been implemented and have been effective, as outlined in section 3.2 of this report. Visibility has improved at all Class I areas in Utah as outlined in section 3.4 of this report. Anthropogenic emissions have declined as expected as outline in section 3.5 of this report. After considering these factors, the State of Utah has determined that the current control strategies in the state's Regional Haze SIP are sufficient to improve visibility at Federal Class I areas in the state.

Utah's SIP focused on expected emission reductions in different regions of the state to address the impact of emissions in Utah on Class I areas in other states. These emission reductions were included in the WRAP reasonable progress inventories that were relied upon by other states for their Class I areas. The emission reductions have been occurring as expected and therefore the State of Utah has determined that the current implementation plan elements and strategies are sufficient to enable other States with mandatory Federal Class I areas affected by emissions from the State, to meet all established reasonable progress goals.

Northern Utah, which may impact Federal Class I areas in Idaho, Nevada, and Wyoming, is an urban area with emissions predominately coming from mobile sources. Mobile NO_x emissions in the four main urban counties (Weber, Salt Lake, and Utah) were projected to decrease 42,000 tons/yr or 61% between 2002 and 2018. These emission reductions were projected using EPA's Mobile 6 model and are difficult to quantitatively compare to current inventories that are based on EPA's MOVES model. However, even greater emission reductions will be achieved by 2018 than had been anticipated in Utah's RH SIP due to federal Tier 3 fuel and vehicle standards that were adopted in 2014. BART controls installed at plants in central Utah (as described in Section 3.2 of this report) will have decreased SO₂ emissions by 27,947 tons

¹⁴ There is no PRP18a established for the new ZICA1 monitor. The PRP18a was originally established for the original ZION/IMPROVE monitor, which was discontinued on July 29, 2004.

and NO_x emissions by 15,258 tons from the 2002 inventory by 2015. This reduction is significantly greater than the 13,189 tons SO₂ and 6,206 tons of NO_x reduction that was projected due to BART in Utah's 2008 SIP and that was included in the PRP 18a regional modeling analysis. And as is the case with northern Utah, southern Utah has an emissions inventory dominated by mobile sources. In Washington County, NO_x emissions from mobile sources were projected to decrease 2,300 tons or 57% between 2002 and 2018. These emissions reductions benefit Federal Class I areas in Colorado, New Mexico and Arizona.

As stated in Section K of the SIP, oil and gas production in eastern Utah is increasing. Approximately 80% of current oil and gas production in Uintah and Duchesne Counties occurs on land that is under the jurisdiction of the Ute Indian Tribe and EPA and is therefore not covered under Utah's SIP. Figure 19 in Utah's SIP shows the expected impact from Utah sources on Class I areas in western Colorado. While oil and gas production is increasing, mobile source NO_x emissions are decreasing in the urban area along the Wasatch Front, and NO_x emissions are decreasing due to BART in Central Utah, showing an overall decreased contribution to nitrate levels in western Colorado. Utah is currently working with EPA and the Ute Tribe to address wintertime ozone levels in the Uinta Basin. DAQ anticipates that the efforts to improve ozone levels will have the co-benefit of improving visibility in Class I areas affected by emissions from eastern Utah. Utah is participating in the Ozone Advance Program to reduce wintertime ozone levels in the Uinta Basin and through that program has implemented a series of regulatory and voluntary measures to reduce VOC and NO_x emissions. New federal strategies to reduce VOC, NO_x and methane emissions from oil and gas sources have been implemented and are benefiting the area. DAQ is currently working with EPA and the Ute Tribe to improve the emission inventory for oil and gas sources in the Uinta Basin to better characterize oil and gas emissions and to account for the significant emission control measures that have been implemented since 2008.

3.8 Assessment of Current Monitoring Strategy: § 51.309(d)(10)(i)(G)

40 CFR § 51.309(d)(10)(i)(G) requires “a review of the State’s visibility monitoring strategy and any modifications to the strategy as necessary.”

The primary monitoring network for regional haze, both nationwide and in Utah, is the IMPROVE monitoring network. Given that IMPROVE monitoring data from 2000 to 2004 serves as the baseline for the regional haze program, the future regional haze monitoring strategy must necessarily be based on, or directly comparable to the current IMPROVE network. The IMPROVE measurements provide the only long-term record available for tracking visibility improvement or degradation; therefore, Utah intends to continue reliance on the IMPROVE network for complying with the RH monitoring requirement in the RH rule.

There are currently four IMPROVE sites in Utah (Table 3.29), and no modifications to the existing visibility monitoring strategy are necessary at this time.

Table 3.29. Utah CIAs and Representative IMPROVE Monitors

Class I Area	Representative IMPROVE Site	Latitude	Longitude	Elevation (m)
Bryce Canyon NP	BRCA1	37.62	-112.17	2481
Canyonlands NP	CANY1	38.46	-109.82	1798
Arches NP				
Capitol Reef NP	CAPH1	38.30	-111.29	1896
Zion NP	ZICA1*	37.20	-113.15	1215

*Replaced the ZIONI monitoring site in 2003.

3.9 Determination of Adequacy: § 51.309(d)(10)(ii)

40 CFR § 51.309(d)(10)(ii)(d)(10)(ii) requires “*Determination of the adequacy of existing implementation plan. At the same time the State is required to submit any 5-year progress report to EPA in accordance with paragraph (d)(10)(i) of this section, the State must also take one of the following actions based upon the information presented in the progress report:*

(1) If the State determines that the existing implementation plan requires no further substantive revision at this time in order to achieve established goals for visibility improvement and emissions reductions, the State must provide to the administrator a negative declaration that further revision of the existing implementation plan is not needed at this time.

(2) If the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources in another State(s) which participated in a regional planning process, the State must provide notification to the administrator and to the other State(s) which participated in the regional planning process with the States. The State must also collaborate with the other State(s) through the regional planning process for the purpose of developing additional strategies to address the plan’s deficiencies.

(3) Where the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources in another country, the State shall provide notification, along with available information, to the Administrator.

(4) Where the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources within the State, the State shall revise its implementation plan to address the plan’s deficiencies within one year.”

The State of Utah has provided the information required under 40 CFR § 51.309(d)(10)(i) and (d)(10)(ii) in this 5-year progress report. Based on the information in this report, the State of Utah has determined that the current implementation plan elements and strategies are sufficient to meet all established reasonable progress goals established by WRAP. Because EPA disapproved the BART determination for NO_x and PM (because the SIP did not fully address the factors that need to be considered as part of a BART determination), the State acknowledges that the BART determinations are in need of revision. The Utah Air Quality Board proposed a revision to Utah’s RH SIP on March 4, 2014 to provide a 5-factor analysis to support the BART determination for PM and an alternative to BART for NO_x that will provide greater reasonable progress than the most stringent NO_x control technology available. DAQ anticipates that the Board will take final action on this proposal in June, 2015 to resolve EPA’s concerns.

Exhibit F***PacifiCorp v. EPA, Consolidated Case Nos. 16-9541, 16-9542, 16-9543, 16-9545***

Excerpts from EPA's Response to Comments for the Federal Register Notice for Air Quality State Implementation Plans; Approvals and Promulgations: Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze; Partial Approval and Partial Disapproval (Docket ID No. EPA-R08-OAR-2015-0463) (Jun. 1, 2016)

**Response to Comments for the Federal Register Notice for
Air Quality State Implementation Plans; Approvals and Promulgations: Utah; Revisions to
Regional Haze State Implementation Plan; Federal Implementation Plan for Regional
Haze; Partial Approval and Partial Disapproval**

Docket No. EPA-R08-OAR-2015-0463

June 1, 2016

*This Response to Comment Document was finalized on June 1, 2016. As shown in the “redline/strikeout” version of this document in the docket for this action, the Agency made non-substantive and formatting edits on June 9, 2016.

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List of Public Comments

Docket ID Number EPA-R08-OAR- 2015-0463-xxxx	Commenter Name/Affiliation
-0031	Citizen Commenter
-0032	Anonymous Commenter
-0033	Anonymous Commenter
-0034	Anonymous Commenter
-0035	Anonymous Commenter
-0036	Anonymous Commenter
-0037	Citizen Commenter
-0038	Anonymous Commenter
-0039	Emery County Public Lands Administrator
-0040	Anonymous Commenter
-0041	Citizen Commenter
-0042	Anonymous Commenter
-0043	Citizen Commenter
-0044	Anonymous Commenter
-0045	Anonymous Commenter
-0046	Anonymous Commenter
-0047	Citizen Commenter
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-0055	Citizen Commenter
-0056	Anonymous Commenter
-0057	Anonymous Commenter
-0058	Anonymous Commenter
-0059	Anonymous Commenter
-0060	Citizen Commenter
-0061	Citizen Commenter
-0062	Anonymous Commenter
-0063	Emery County Commissioner
-0064	Citizen Commenter
-0065	Citizen Commenter

-0066	Anonymous Commenter
-0067	Anonymous Commenter
-0068	Citizen Commenter
-0069	Citizen Commenter
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-0095	Anonymous Commenter
-0096	Citizen Commenter
-0097	Citizen Commenter
-0098	Anonymous Commenter
-0099	Anonymous Commenter
-0100	Mass Mailer Sample, National Parks Conservation Association (NPCA)
-0101	Mass Mailer Sample, Sierra Club
-0102	Mass Mailer Sample, Healthy Environment Alliance of Utah (HEAL Utah)
-0103	Anonymous Commenter
-0104	Anonymous Commenter
-0105	Anonymous Commenter

-0106	Anonymous Commenter
-0107	Citizen Commenter
-0108	Anonymous Commenter
-0109	Anonymous Commenter
-0110	Anonymous Commenter
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-0112	Public Hearing Statements
-0113	Public Hearing Statements
-0114	Sevier Citizens for Clean Air and Water (SCCAW) Hearing Statement
-0115	Anonymous Commenter
-0116	Anonymous Commenter
-0117	Anonymous Commenter
-0118	Early Mass Mailer Sample - Sierra Club
-0119	Anonymous Commenter
-0120	Anonymous Commenter
-0121	Citizen Commenter
-0122	Anonymous Commenter
-0123	Citizen Commenter
-0124	Retired National Park Service Manager
-0125	Anonymous Commenter
-0126	Anonymous Commenter
-0127	Anonymous Commenter
-0128	Citizen Commenter
-0129	Citizen Commenter (repeat of -0121)
-0130	Utah Citizens Advocating Renewable Energy (UCARE)
-0131	Citizen Commenter
-0132	Citizen Commenter
-0133	No document for this number
-0134	Anonymous Commenter
-0135	Anonymous Commenter
-0136	Utah Physicians for a Healthy Environment (UPHE)
-0137	Citizen Commenter
-0138	Citizen Commenter
-0139	Citizen Commenter
-0140	Citizen Commenter (repeat of -0139)
-0141	Citizen Commenter
-0142	Citizen Commenter
-0143	Citizen Commenter
-0144	Citizen Commenter (Sierra Club mass mailer, comment submitted via Regs.gov)

-0145	Citizen Commenter
-0146	Anonymous Commenter
-0147	Citizen Commenter
-0148	Citizen Commenter (Sierra Club mass mailer, comment submitted via Regs.gov, repeat of -0144)
-0149	Anonymous Commenter
-0150	Citizen Commenter
-0151	Anonymous Commenter
-0152	Carbon County Board of Commissioners
-0153	NPS Regional Director
-0154	National Park Service (NPS)
-0155	Edison Electric Institute
-0156	Colorado Conservation Organizations
-0157	Conservation Organizations, Vicki Stamper Report
-0158	Conservation Organizations, Dr. Gray Report
-0159	Utah Division of Public Utilities
-0160	Utah Department of Air Quality (UDAQ)
-0161	Wasatch Clean Air Coalition
-0162	PacifiCorp
-0163	Utah Associated Municipal Power Systems (UAMPS)
-0164	Citizen Commenter
-0165	Utah Mining Association (UMA)
-0166	Utah Citizens Advocating Renewable Energy (UCARE)
-0167	Conservation Organizations Cover Letter and Exhibits (Conserv Orgs)
-0168	Utility Air Regulatory Group (UARG)
-0169	PacifiCorp, corrected
-0170	Sierra Club, early comments
-0171	Citizen Commenter
-0172	Utah Physicians for Healthy Environment (UPHE) Part 1
-0173	UPHE, Part 2
-0174	Mass Mailer, Distinct Submissions, Sierra Club
-0175	Protect our Winters (POW)
-0176	Colorado Organizations
-0177	Mass Mailer, Industry
-0178	Mass Mailer, Coal Company Employees
-0179	UCARE, Second Submittal

test, I believe, is the evaluation of the 90% results (worst 10% of days at the Park). EPA does not present this modeling test.

Response: The response to this comment is provided in the FRN and elsewhere in this RTC document.

Comment: [NPS Tech, pp. 26-27] 90th Percentile Impact (dv)

UDAQ's Table 7 presents 90th percentile values which have never before been allowed by EPA and were explicitly rejected by EPA in North Dakota as "not rational"⁵⁰ and also explicitly rejected in the BART Guidelines:

The use of 90th percentile value would effectively allow visibility effects that are predicted to occur at the level of the threshold (or higher) on 36 or 37 days a year. We do not believe that such an approach would be consistent with the language of the statute.¹⁸⁷

For example, this approach converts a perceptible 1.3 dv (98th percentile) impact at Mesa Verde NP to an imperceptible 0.4 dv impact.

Now, EPA "propose[s] to find that it [90th percentile] only marginally supports a conclusion that the BART Alternative achieves greater reasonable progress." Such a proposal is inconsistent with the BART Guidelines and all previous EPA BART actions and should not be given any weight.

In conclusion, we recommend that EPA rely on the 98th percentile "key metric" as consistent with previous decisions. The other metrics do not provide clear weight-of-evidence that the BART Alternative provides greater reasonable progress than the BART scenario. The BART Alternative is not better than BART.

Response: The response to this comment is provided in the FRN. We note that our statements in the North Dakota notice of final rulemaking¹⁸⁸ and BART Guidelines refer to use of the 90th percentile value in the context of determining whether a source is subject to BART.

Comment: [UARG, p. 19] EPA also discounts the 90th percentile impacts analysis "because of the small difference between the two scenarios." *Id.*

Response: The response to this comment is provided in the FRN.

vi. Timing for the Emissions Reductions

Comment: [PacifiCorp, pp. 2, 19, 26] EPA unfairly minimizes the timing of emissions reductions. EPA glosses over the benefits of the timing of the BART Alternative emissions reductions. The emissions reductions associated with the BART Alternative began in 2007 and

¹⁸⁷ 40 CFR Part 51 [FRL-7925-9] RIN 2060-AJ31; 70 FR 39171, 39121 (July 6, 2005).

¹⁸⁸ 77 FR 20894, 20910 (Apr. 6, 2012).

have continued to this day, long before any emissions reductions would occur under the FIP Proposal.

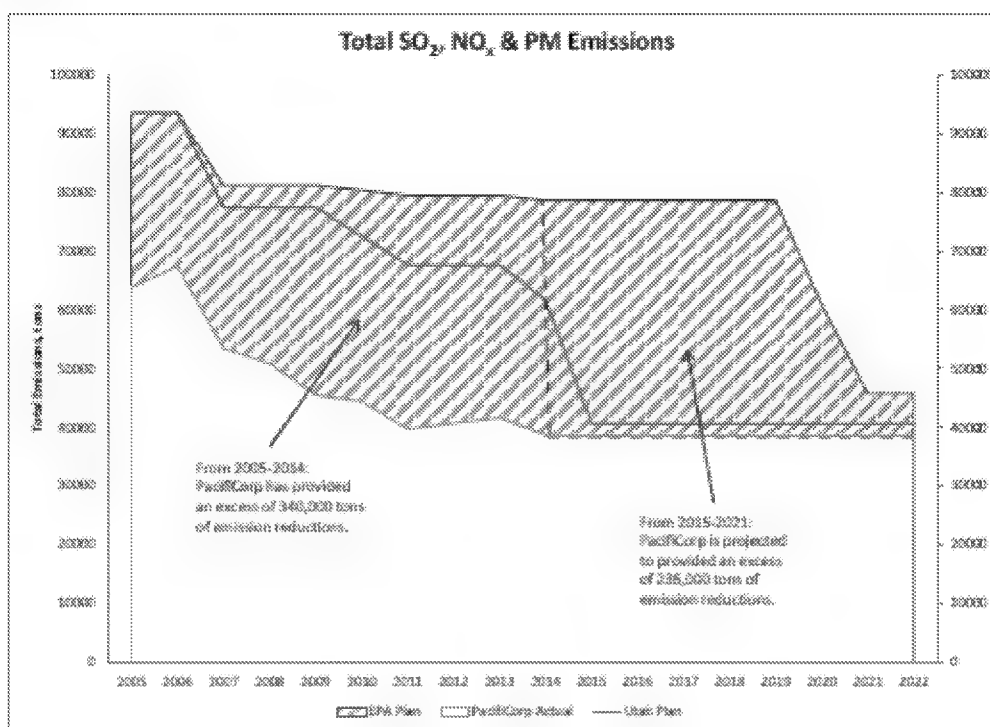
Further, by attempting to impose BART controls EPA is actually requiring both the BART Alternative and BART – reaching well beyond the scope of its authority.

Timing for the Emissions Reductions – In considering the Timing of Emissions Reductions metric, EPA notes simply that “the reductions from the BART Alternative will occur before the BART Benchmark.” See 81 FR at 2023. Although this is a true statement on its face, EPA does an extreme disservice to Utah, PacifiCorp, its customers and the general public by including such an underwhelming description of the meaningful and large visibility benefits associated with the timing of emissions reductions under the BART Alternative¹⁸⁹ as compared to the BART Benchmark. In approving the BART Alternative, PacifiCorp strongly encourages EPA to more completely describe both the tremendous scope, and the overwhelmingly positive visibility impact, of the timing of emission reductions under the BART Alternative as compared to the BART Benchmark.

The table below shows the timing of controls installed under the BART Alternative, along with: (i) the total tons of emissions reductions achieved since the date of the installation of the controls; and (ii) the projected emissions reductions to be achieved until the time when the BART Benchmark is expected to be implemented.¹⁹⁰

¹⁸⁹ In at least three other portions of the Proposed Action, EPA at least acknowledges that the “reductions under the Utah BART Alternative are required under the State SIP by August 2015, as noted in Table 5, providing an **early and on-going visibility benefit as compared to BART.**” (emphasis added) See 81 FR 2004, 2018, 2024, and 2030. In addition, EPA states in the Proposed Action that: “Also notable is that combustion control upgrades at the Hunter and Huntington facilities have been achieving significant NO_x reductions **since the time of their installation between 2006 and 2014.**” (emphasis added) Id. at 2030. At the critical point of describing in the Proposed Action the timing of reductions as evidence to consider under the Weight-of-evidence analysis, however, EPA could not even be bothered to do more than nominally and incompletely describe that evidence, leaving out the importance, scope and impact of the timing of such significant emissions reductions. This, in turn, led to EPA incompletely evaluating the weight of this evidence when considering the SIP Proposal (even though EPA actually reaches the proper conclusion in proposing to approve the BART Alternative).

¹⁹⁰ EPA projects that the BART Benchmark “likely would be fully implemented sometime between 2019 and 2021.” See 81 FR 2004, 2030.



As can be seen, the BART Alternative already has produced a total of 340,000 tons of combined emission reductions beginning in 2007 and continuing through 2014. And these emissions reductions have occurred at a time long before the BART Benchmark ever would be implemented. In addition, the BART Alternative is expected to continue to produce significant emission reductions between now and the time of the BART Benchmark (and beyond). EPA should specifically note the significant visibility benefits associated with the timing of these emissions reductions and assign them great weight under the Weight-of-evidence test.¹⁹¹ What EPA should not do, however, is brush over the Emission Reduction Timing metric by failing to adequately describe or consider the significant timing benefits as EPA appears to have done in its tepid conclusions regarding the weight of the Emission Reduction Timing metric in evaluating the BART Benchmark.

Even in evaluating its FIP Proposal, EPA cannot escape acknowledging the benefits of the timing of emission reductions achieved under the BART Alternative as compared to the BART Benchmark. Indeed, EPA does not, and cannot, offer any criticism to the contrary and instead concludes that: “we recognize that the reductions from the BART Alternative would occur before the BART Alternative.” See 81 FR at 2030. Therefore, even though EPA has employed every tactic it can think of criticize other metrics used to evaluate the BART Alternative under its FIP Proposal, EPA makes no such attempt when it comes to the timing metric. This failure is additional evidence that the timing metric should carry great weight in EPA’s weight-of-evidence analysis in support of the BART Alternative and this metric in no way supports the FIP Proposal.

¹⁹¹ The U.S. Circuit Court of Appeals for the 10th Circuit explicitly acknowledged that the consideration by EPA of emission reductions occurring at an early point in time is a proper part of a clear weight-of-evidence approach to determining greater reasonable progress. *WildEarth Guardians v. E.P.A.*, 770 F.3d 919, 938 (10th Cir. 2014).

As explained above and following Utah's lead in the Utah SIP, EPA has assumed that the SIP Proposal produces a greater reduction in aggregate emission reductions of 2,856 tpy compared to the BART Benchmark. This information, however, presumes that the emission units covered under the BART Alternative have emitted at the maximum amount allowable under applicable permits every minute of every day for 365 days each year. In reality, of course, the units do not function in this manner. Therefore, EPA should also take into account the actual emissions from the affected units in considering the aggregate tpy reductions, at least in considering emissions from 2007 until the present. This information is available above in the chart at page 17. By acknowledging that the SIP Proposal – based on actual emissions data – produced even greater emission reductions than EPA (or Utah) had supposed, this gives EPA even more reason to approve the BART Alternative based on this metric.

Response: In its SIP submittal, Utah relied only on the NO_x reductions at Huntington 1 and 2 and Hunter 2 and 3 that occurred between 2006 and 2011 in arguing that the BART Alternative provides for early and ongoing visibility improvement. Given the timing of these reductions, we agree with Utah that they can be taken into account as early reductions in assessing the Alternative. We do not agree with the commenter, however, that EPA should consider the timing of the total tonnage of emission reductions associated with the BART Alternative as “early” beyond those identified by Utah in its SIP submittal.

We acknowledge that EPA proposed to find that other emission reductions from PacifiCorp's Utah facilities could be taken into account as early reductions. After considering the comments received, however, we have concluded that it would be difficult to assess the relative benefit of the timing of later emission reductions under the BART Alternative, given that regional haze SIPs were due in 2007 and that under the schedule in the Clean Air Act, BART should have been fully implemented by 2014 at the latest. It is accordingly difficult to characterize emission reductions such as the shutdown of Carbon in 2015 as “early.” As this is consistent with Utah's SIP submittal, we have decided to consider only those emission reductions that occurred between 2006 and 2011 as lending weight to the argument that the Alternative will provide for greater reasonable progress.

In assessing the BART Alternative, we have taken into account the likely visibility benefit from the emission reductions under the Alternative that occurred from the installation of controls at Hunter and Huntington between 2006 and 2011. We have given some weight to this metric but do not consider the timing of these reductions to be compelling, however, in light of the remaining evidence regarding the comparative visibility benefits going forward.¹⁹²

¹⁹² As explained in this response, while we have taken into account the likely visibility benefit of the early emission reductions in our evaluation of the State's greater reasonable progress than BART analysis, the Clean Air Act requires that all SIPs must include “enforceable emission limitations and other control measures, means, or techniques . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of [the Act].” CAA Section 110(a)(2)(A); 42 USC 7410(a)(2)(A). Furthermore, regional haze SIPs must include emission limits, compliance schedules, and other measures “as may be necessary to make reasonable progress toward meeting the national goal.” CAA Section 169A(b)(2); 42 USC 7491(b)(2). Therefore, in addition to disapproving the provisions in the State's SIP that covered the BART Alternative, we also disapproved provisions in the State's SIP that presented references to and information about emission limits that were created outside the SIP process. Additionally, as discussed elsewhere in this document and the FRN, the presumptive

Comment: [PacifiCorp, p. 63] Utah properly considered The Alternative Program provides emission reductions earlier than required, “providing a corresponding early and on-going visibility improvement.” *See* Staff Review, Section VII, page 9. The U.S. Circuit Court of Appeals for the 10th Circuit explicitly acknowledged that the consideration of early reductions was proper as part of a qualitative or clear weight-of-evidence approach to determining greater reasonable progress. *WildEarth Guardians v. E.P.A.*, 770 F.3d 919, 938 (10th Cir. 2014).

Response: As explained in the FRN, we agree that consideration of early reductions is allowed under the weight-of-evidence analysis.

Comment: [Conserv Orgs, p. 31] By using emissions for the Carbon units over the 2012 -2013 timeframe in its comparison of emission reductions achievable under the BART Benchmark compared to the BART Alternative, Utah is not meeting the requirements of 40 C.F.R. §51.308(e)(2)(iv) that emission reductions resulting from the BART alternative “will be surplus to those reductions resulting from measures adopted to meet requirements of the CAA as of the baseline date of the SIP.”

Response: The RHR regulations specify that “emission reductions resulting from the emissions trading program or other alternative measure will be surplus to those reductions resulting from measures adopted to meet requirements of the CAA as of the baseline date of the SIP.”¹⁹³ We have interpreted this to mean that the State can take credit for all post-2002 emission reductions as of that baseline date. However, there is some question as to whether Utah should have taken credit for emission reductions at Carbon from a starting point that exceeds its emissions as of 2002. We are not basing our disapproval of the State’s Alternative on a determination that it failed to demonstrate that emission reductions were surplus to the baseline date of the SIP, but we do note that a state must take a reasonable approach to assessing whether a BART alternative will provide for greater reasonable progress than BART.

Comment: [Conserv Orgs, p. 32] Utah should not be allowed emissions reduction credit for the shutdown of the Carbon units at emission levels that exceeded the emissions as of the 2002 baseline date of the regional haze plan.

Response: There is some question as to whether Utah should have taken credit for emission reductions at Carbon from a starting point that exceeds its emissions as of 2002. We are not

emission limits in the BART Guidelines are rebuttable; we did not determine here that those limits represent BART and therefore disapproved references in the SIP to those limits. The limits created outside the SIP and references to the presumptive emission limits that we disapproved included: SIP Section XX, D subsections: 6.d. (references to use of approval orders and permitted limits to establish the emission limits, the statement that “the four EGUs also met the presumptive emission rates for both NO_x and SO₂ established in Appendix Y independently of the alternative programs”, and references in Table 5 to “Permitted” (and the NO_x and SO₂ limits in that column), “Hunter 3”, all provisions in the “Presumptive BART Rates” column NO_x and SO₂ emissions); 6.e. (the provisions in “Schedule for Installation of Controls” as the dates refer to emissions for sources that are in the proposed BART Alternative; and the discussion immediately following Table 6 that presents information about the emission limits also appearing in State-issued permits).

basing our disapproval of the State's Alternative on a determination that it failed to demonstrate that emission reductions were surplus to the baseline date of the SIP, but we do note that a state must take a reasonable approach to assessing whether a BART alternative will provide for greater reasonable progress than BART.

Comment: [Conserv Orgs, p. 48] The timing of emissions reductions under Utah's BART Alternative also does not support a "greater reasonable progress" finding.¹⁹⁴

Response: This comment is responded to elsewhere.

Comment: [Conserv Orgs, p. 25] Utah employed arbitrary assumptions in its Projected Emission Reduction Analysis for the BART benchmark. Namely, Utah arbitrarily assumed that if BART, and not the alternative program, were required at Hunter and Huntington, the Carbon plant would have continued operating after April 15, 2015 at uncharacteristically high emissions levels and without complying with mandatory MATS emissions limits, and that PacifiCorp would somehow remove the most recently installed LNB from Hunter Unit 3 and emit NO_x rates higher than its currently permitted limit. As a result, Utah significantly overstated the overall haze-causing emissions that would occur under the BART benchmark scenario.

Response: We respond to these comments elsewhere.

Comment: [Conserv Orgs, p. 55, 56] The Regional Haze Rule Requires Alternative Programs to Achieve Future Emissions Reductions from BART Sources. Utah's BART Alternative does not satisfy these requirements. In fact, the Alternative relies exclusively on past emissions reductions and largely excludes all BART sources in the state by excusing Hunter Units 1 and 2 and Huntington Units 1 and 2 from future emissions reductions under both the alternative program and BART-derived emission limits.

Response: We respond to these comments elsewhere.

Comment: [Conserv Orgs, p. 57, 58] Utah's Alternative Proposal Conflicts with EPA Precedent, Which Requires Actual Emissions Reductions From BART Sources. First, it is important to note that the CAIR program was specifically identified as a potential substitute for BART and specific requirements for this program are enumerated in EPA's regional haze regulations.¹⁹⁵ This is important because the rules governing CAIR are separate from those governing other "alternative programs" to BART. In addition, CAIR is an interstate SO₂ and NO_x "trading program." Utah's ability to rely on a trading scheme is limited to its participation as a 309 state, thus this proposal must instead be evaluated under the "BART alternative" regulations, relating strictly to emissions of nitrogen oxides and PM. Despite these significant differences between the programs, it is clear that the CAIR program was designed as a forward looking program that would require *future* emissions reductions to serve as a substitute for BART. In contrast, Utah's BART Alternative is a backward looking program that seeks to rely solely on past emissions reductions that largely resulted from other regulatory programs, i.e. the Carbon units closures resulted from the MATS program, not from regional haze obligations, and

¹⁹⁴ See 81 FR 2004, 2018, 2030.

¹⁹⁵ 40 C.F.R. § 51.308(e)(4).

fail to deliver visibility benefits needed to comply with the Regional Haze Rule's BART obligations.

As with CAIR, emissions reductions under CSAPR are forward, rather than backward, looking. And as with EPA's approval of CAIR as a BART alternative, EPA's approval of CSAPR as a BART alternative applies only to states subject to a FIP or SIP ensuring emissions reductions from the CSAPR trading program for the state's EGUs, which necessarily includes EGUs subject to BART.¹⁹⁶ Thus, like CAIR, CSAPR yields future emissions reductions from BART-subject EGUs. Although the Conservation Organizations do not support EPA's determination that CSAPR is a legitimate BART alternative program, it certainly does not provide precedent for Utah's proposed alternative.

Response: As discussed in the FRN, we disagree that the emission trading requirements in 40 CFR 51.308(e)(4) apply Utah's BART Alternative; and since the RHR establishes the baseline date of the SIP as 2002, a RH SIP can take credit for emission reductions that occur post-2002.

Comment: [Conserv Orgs, p. 59] Closer to home, EPA approved a regional SO₂ trading program under 40 C.F.R. § 51.309 (the "309 Program") as satisfying the better-than-BART requirements for SO₂ in Utah, Wyoming, and New Mexico.¹⁹⁷ Again, the 309 Program is designed to achieve emissions reductions from all EGUs in the three participating states and the emissions reductions are guaranteed by a future cap on emissions growth. While the Conservation Organizations disputed EPA's determination that the 309 Program is better than source-specific BART determinations, the program's scope and timing make it fundamentally distinguishable from Utah's alternative.

Response: We agree that the program scope and timing of the regional SO₂ trading program is fundamentally different from Utah's BART Alternative. While we recognize that the 10th Circuit acknowledged it was proper to consider early emission reductions in evaluating a BART alternative program,¹⁹⁸ the regional trading program elements are very different from Utah's BART Alternative. For example, the regional trading program is an ongoing "backstop" trading program, and the program contains overall emission milestones that decline over time. The emissions from sources that are in the program, BART and non-BART, are tracked each year, and if the total emissions from all the sources exceed the overall emission milestones, the trading program is triggered. If the trading program is triggered, the state and local air agencies participating in the program provide emission allowances to the sources, and the sources' emissions must be covered by allowances. If a source's emissions are going to greater than the allowance provided by the air agency, then the source needs to either purchase allowances on the market to cover the additional emissions, or reduce its emissions in some other way. The states participating in the program submitted SIPs to EPA that included regulatory details on these trading program elements, and an analysis that EPA approved under the BART alternative regulations. Therefore, we agree with the commenters that backstop trading program's scope and

¹⁹⁶ *Id.* at 33,647.

¹⁹⁷ See Final Rule, Approval, Disapproval and Promulgation of State Implementation Plans; State of Utah; Regional Haze Rule Requirements for Mandatory Class I Areas Under 40 CFR 51.309, 77 Fed. Reg. 74,355 (Dec. 14, 2012).

¹⁹⁸ *WildEarth Guardians v. EPA*, 770 F.3d 919, 938 (10th Cir. 2014).

Comment: [UDAQ, p. 23] BART controls cannot legally be required to be installed after 2018 because it is past the end of the planning period. EPA acknowledges in the proposal to approve Utah's submittal that all the controls required by Utah's RH SIP are installed and, therefore, meet the "requirement that all necessary emissions reductions take place during the period of the first long-term strategy for regional haze." 40 CFR 51.308(e)(2)(iii). EPA states in the proposed FIP that installation of SCR, or the BART controls, would be fully implemented between 2019 and 2021—a minimum of one year after the end of the 2018 planning period end date. Because EPA's proposed FIP would not be fully implemented until after the planning period, this option is contrary to the RHR (40 CFR 51.308(e)(2)(iii)).

Response: The requirement to install controls by the end of the first planning period cited by the commenter applies to states that opt to implement trading programs or alternative measures under §51.308(e)(2) of the RHR. However, we are not adopting our FIP pursuant to this provision, but to §51.308(e)(1) of the RHR which states that "each source subject to BART be required to install controls as expeditiously as possible, but in no event later than 5 years after approval of the implementation plan revision."⁵³¹ We anticipate that our final rule will become effective in the summer of 2016, so that the compliance date will fall sometime in the summer of 2021. Accordingly, we find that the compliance dates specified in our FIP are consistent with the requirements of the RHR. We also note that the commenter's theory does not make sense – if approval of the plan revision were considerably delayed for various reasons such as protracted litigation, under the commenter's theory BART could never be implemented. And under section 110(c)(1), EPA is required to promulgate a FIP to address deficiencies in a State's SIP, regardless of the original timeline for the State's SIP.

i. Consideration of Existing Controls

Comment: [PacifiCorp, p. 29] The Eighth Circuit rejected EPA's "existing control" interpretation -- Not only does EPA's "existing controls" approach in the FIP Proposal violate the BART Guidelines, but courts have rejected EPA's approach as well. In *North Dakota*, a power company had installed pollution control equipment two years before EPA conducted its BART determination. *North Dakota v. EPA*, 730 F.3d 750, 760 (8th Cir. 2013). The power company argued EPA should consider the existing controls when calculating cost effectiveness, among other things. EPA refused, unsuccessfully arguing that it "was not required to reconsider cost estimates based on voluntarily installed controls installed after the baseline period." *Id.* at 762. The Eighth Circuit rejected EPA's actions, and its excuses. The *North Dakota* court held that "EPA's refusal to consider the existing pollution control technology in use at the Coal Creek Station because it had been voluntarily installed was arbitrary and capricious." *Id.* at 764. The court further held EPA's failure to properly consider the "existing pollution control technology" was contrary to the plain language of the CAA and rejected part of EPA's FIP on this basis. *Id.* at 762-64.

⁵³¹ 40 CFR 51.308(e)(1)(iv).

Message

From: PierCarlo Sandei [PierCarlo.Sandai@unep.org]
Sent: 6/12/2017 1:05:31 PM
To: Sandei Pier Carlo [Sandai.PierCarlo@minambiente.it]
CC: A: G7emm [G7emm@minambiente.it]; Filyk, Greg (EC) [greg.filyk@canada.ca]; DUMOULIN Virginie - SG/DAEI [virginie.dumoulin@developpement-durable.gouv.fr]; BARGIARELLI Pascal - SG/DAEI /CCDD3 [pascal.bargiarelli@developpement-durable.gouv.fr]; Sach, Karsten [Karsten.Sach@bmub.bund.de]; Schroeder, Marcus [Marcus.Schroeder@bmub.bund.de]; TAKESHI_SEKIYA@env.go.jp; SATORU_MORISHITA@env.go.jp; KEITARO_TSUII@env.go.jp; Case, Cheryl (Defra) [cheryl.case@defra.gsi.gov.uk]; Corrigan, Tanya (DEFRA) [Tanya.Corrigan@defra.gsi.gov.uk]; Finman, Hodayah [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=92efbc05989a49ec874c24bb790a872c-Finman, Hodayah]; Cyril.LOISEL@ec.europa.eu; Luca.Marmo@ec.europa.eu; erin.silsbe@canada.ca; jacob.werksman@ec.europa.eu; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Marguccio Stefano [Marguccio.Stefano@minambiente.it]; La Camera Francesco [Lacamera.Francesco@minambiente.it]; Ravazzi Aldo [Ravazzi.Aldo@minambiente.it]; PierCarlo Sandei [PierCarlo.Sandai@unep.org]; Pasella Daniela [Pasella.Daniela@minambiente.it]; Carlotta Demofonti [C.Demofonti@governo.it]; Luca Bergamaschi [L.Bergamaschi@governo.it]; A: G7logistica [G7logistica@minambiente.it]; Brunelli Giovanni [Brunelli.Giovanni@minambiente.it]; Fricano Federica [Fricano.federica@minambiente.it]; Negrin Alessandro [Negrin.Alessandro@minambiente.it]; Dell'Anno Benedetta [DellAnno.benedetta@minambiente.it]; Manzione Pierluigi [Manzione.Pierluigi@minambiente.it]; Castaldi Gionata [Castaldi.Gionata@minambiente.it]; Eboli Fabio [Eboli.Fabio@minambiente.it]; Molocchi Andrea [Molocchi.Andrea@minambiente.it]; Medaglia Carlo Maria [Medaglia.CarloMaria@minambiente.it]
Subject: Communiqué Bologna

Dear Colleagues, at the link below you can find the Communiqué as adopted today.

http://www.minambiente.it/sites/default/files/archivio_immagini/Galletti/G7/communique_g7_environment_-_bologna.pdf

It was a pleasure working with you all.

Ciao
 Italian G7 Presidency team

Ciao

Pier Carlo

 Mr. Pier Carlo Sandei
 Advisor to the Italian G7 Presidency

UN Environment
 c/o Italian Ministry of Environment Land and Sea
 Via Cristoforo Colombo, 44
 00147 Rome (Italy)
 Tel: (+39) 06 57223738
 Mobile (+39) 347 2617015
 E-mail: piercarlo.sandai@unep.org
 Skype: piercarlosandai

Message

From: Wells, Erskine [EWells@bgrdc.com]
Sent: 5/25/2017 5:44:16 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Today's Call

Mandy,

Thanks for agreeing to do a call with the member of companies of our client, US Green Building Council. Below is a list of the call participants. I have asked the companies to talk about their businesses, employment footprint, etc. We will also talk about ENERGY STAR and I'm sure they will offer an opinion as to why they support the program, respecting of course the FY18 budget request. I do not expect us to agree on everything today, but I hope you walk away from the call knowing there are a group of businesses interested in these programs and ones you can use as a resource when the EPA looks to reform these important programs.

Call participants:

Erskine Wells-BGR
Elizabeth Odina- BASF
Jim Landau- Met Life real estate
Joyce Mihalik- Forest City
Bryan Howard- USGBC
Ann Pavlova- Schneider Electric

Might join:

Duane Desiderio-Real Estate Roundtable
Danny Gleiberman-Sloan

Erskine Wells

Principal

BGR Government Affairs, LLC

BGR GROUP

The Homer Building
Eleventh Floor South
601 Thirteenth Street, NW
Washington, DC 20005
Direct: (202) 661-6368
Cell: (703) 725-1066
www.bgrdc.com

Message

From: Stanko, Joseph [jstanko@hunton.com]
Sent: 5/24/2017 12:07:36 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Any open time for a quick call today?



Joseph Stanko

Partner

jstanko@hunton.com

p 202.955.1529

[bio](#) | [vCard](#)

Hunton & Williams LLP
2200 Pennsylvania Avenue, NW
Washington, DC 20037
hunton.com

ENVIRONMENTAL PROTECTION AGENCY

Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze; Final Rule

81 Fed. Reg. 43894-01 (July 5, 2016), EPA-R08-OAR-2015-0463; FRL-9947-42-Region 8

APPLICATION FOR PARTIAL ADMINISTRATIVE STAY BY THE STATE OF UTAH

The State of Utah (Utah) requests that the Environmental Protection Agency (EPA) immediately stay a portion of the final rule “Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze,” 81 Fed. Reg. 43894-01, pending judicial review of the final rule.¹ In this final rule, EPA approved Utah’s Regional Haze State Implementation Plan (RH SIP) PM₁₀ BART determinations and emission limits for Hunter Units 1 and 2 and Huntington Units 1 and 2.² *See* 81 Fed. Reg. 43894-01, 43921. Utah is not requesting a stay of this determination.

However, in the same final rule, EPA disapproved Utah’s NO_x BART Alternative that included emission reductions of NO_x and SO₂ for Hunter Units 1 through 3, Huntington Units 1 and 2, and Carbon Units 1 and 2, and also PM₁₀ emission reductions for Carbon Units 1 and 2. *See id.* EPA promulgated a Federal Implementation Plan (FIP) to replace the disapproved portion of the Utah RH SIP as to the NO_x BART Alternative. *See id.* The FIP imposes Selective Catalytic Reduction (SCR) and existing Low NO_x Burner/Separated Over-Fire Air (LNB/SOFA)

¹ Utah is preparing to file petition for review of the final rule in the United States Court of Appeals for the Tenth Circuit.

² EPA approved monitoring, recordkeeping, and reporting requirements for units subject to the PM₁₀ emission limits, including conditional approval of the recordkeeping requirements for the PM₁₀ emission limits. *See* 81 Fed. Reg. 43894-01, 43921.

as BART for NO_x on the eligible units with a compliance deadline of five years from the date the FIP becomes effective. *See id.* at 43907. Utah requests an immediate stay of this disapproval and promulgation of the FIP under the authority of the federal statute, 5 U.S.C. § 705.

Absent a stay, the state will suffer irreparable harm because its citizens and businesses will have to bear higher electricity costs³ due to PacifiCorp having to purchase and install controls required under the FIP that will cost approximately \$700 million for four units. Additionally, potential closure of the plants subject to unreasonably costly regulation with uncertain environmental benefits would lead to increased unemployment in Emery County, which already has a high unemployment rate. Also, any monetary damages are not recoverable because of the federal government's sovereign immunity and constitute irreparable injury.

Utah will also face regulatory complications in preparing Utah's plan to comply with the Clean Power Plan (CPP) rule that involves the electric generating units at issue in this action. Addition of SCR to these units could complicate Utah's regulatory scheme for compliance with CPP and the long-term planning.

While the final rule is undergoing judicial review, Utah must review and issue permits for the FIP-required SCR installations at Hunter and Huntington. This process will require shifting resources and spending significant time on a public review process, and preparation and issuance

³ In its responses to comments on the proposed rule at issue, EPA itself acknowledges that the "residential customers are more likely to experience rate increases in the range of 5-10% due to installation of SCR controls required by the FIP" and these increases are "not trivial". Response to Comments for the Federal Register Notice for Air Quality State Implementation Plans; Approvals and Promulgations: Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze; Partial Approval and Partial Disapproval (EPA Response to Comments), Docket No. EPA-R08-OAR-2015-0463 at 370 (June 1, 2016). EPA has considered potential rate increase impacts for a Regional Haze FIP for Hawaii, 77 Fed. Reg. 61478, 61488 (Oct. 9, 2012), a BART FIP for Four Corners Power Plant on the tribal land, 77 Fed. Reg. 51620, 51625-26 (Aug. 24, 2012), and a BART FIP for Apache Generating Station, 77 Fed. Reg. 72512 (Dec. 5, 2012). In the RH FIP for Hawaii, EPA made an exception for the Hill Plant, the largest source of anthropogenic SO₂ emissions on the Big Island. 77 Fed. Reg. 31692-01, 31706 (May 29, 2012) (proposed rule). Relying on EPA's own cost effectiveness analysis, EPA determined that requiring additional controls for the Hill plant would cause electricity rates to "unduly increase." *Id.* at 31707.

of the final permits.⁴ Absent a stay, in this time of limited state resources and tight budgets, Utah will be irreparably harmed if it is forced to devote time and resources to tasks with no value if EPA's final rule is judicially overturned. "[C]omplying with a regulation later held invalid almost *always* produces the irreparable harm of nonrecoverable compliance costs." *Thunder Basin Coal Co. v. Reich*, 510 U.S. 200, 220-21 (1994) (Scalia, J concurring).

Additionally, Utah and its agencies will experience irreparable harms from EPA's undercutting of the cooperative federalism framework laid out in the CAA and EPA's illegal disapproval and federal replacement of an appropriate state plan. *See Texas v. EPA*, -- F.3d --, 2016 WL 3878180, at *42 (5th Cir. July 15, 2016) (finding that "the institutional injury to Texas from the inversion of the federalism principles enshrined in the Clean Air Act may constitute irreparable injury.").

Finally, there is a substantial likelihood that Utah will succeed in showing that EPA abused its discretion in promulgating the final rule and imposing a FIP requiring costly controls for NO_x emissions with no concrete visibility improvement. Utah will be able to show that (1) EPA abused its discretion by imposing a novel and legally unsupportable test for weighing the evidence⁵ individually and collectively and then re-weighing the evidence, placing the most weight on the one metric out of nine considered and the only one Utah determined to be unsupportive of the BART Alternative when evaluating Utah's weight-of evidence approach for the BART Alternative; (2) EPA violated the regional haze statute and regulation, and ignored the

⁴ These burdens are in addition to the time and resources Utah has already devoted to the permits for these units based on the RH SIP submitted to EPA in September 9, 2008, on which EPA acted with a three-year plus delay after an environmental group filed a lawsuit to compel EPA to act. *See WildEarth Guardians v. Jackson*, No. 10-cv-01218-REB-BNB (D. Colo. Oct. 28, 2010).

⁵ Utah worked closely with EPA when it developed the BART Alternative for NO_x. *See* Decl. of Bryce Bird ¶ 48. EPA did not submit any substantive comments on the alternative during the state public comment period and only requested Utah to prepare a commitment SIP to properly account for SO₂ emissions reductions due to the closure of the Carbon plant. *Id.* ¶¶ 49-50. Utah timely submitted the requested SO₂ commitment SIP, on which EPA elected not to act in the final rule. *Id.* ¶51. As a result, EPA's actions already have caused a great waste of state resources.

BART Guidelines (which EPA claims apply), by excluding costs and non-air quality benefits from its evaluation of Utah's BART Alternative; and (3) the FIP violates applicable laws and is not legally sustainable.

Granting a stay pending litigation of the final rule is consistent with the actions in a number of other regional haze cases, where significant costs were imposed by the regulation. *See Texas v. EPA*, 2016 WL 3878180, at *20 (granting motion for stay pending resolution of challenge to the final rule imposing \$2 billion in costs); *Oklahoma v. EPA*, 723 F.3d 1201, 1206-07 (staying implementation of the rule that imposed \$1.2 billion in costs); (10th Cir. June 22, 2012); *Wyoming v. EPA*, Nos. 14-9529, 14-9530, 14-9533, 14-9534 (10th Cir. Sept. 9, 2014) (staying and tolling deadlines for rules imposing \$700 million in costs); *Cliffs Natural Res. Inc. v. EPA*, Nos. 13-1758, 13-1761 (8th Cir. June 14, 2013) (staying and tolling compliance deadlines for rules imposing \$200 million in costs).

Utah respectfully requests action on this application **by 4PM EST on September 29, 2016**, so that Utah can seek emergency relief in court. Utah will treat EPA's failure to act on this application within the specified time as a constructive denial of its request for stay.

BACKGROUND

I. Utah's RH SIP Process for NO_x

Utah has worked on the development of Utah's RH SIP since 1997. Decl. of Bryce Bird ¶ 8. Utah was a participant in the Grand Canyon Visibility Transport Commission (GCVTC) and the Western Regional Air Partnership (WRAP), a follow-on organization to the GCVTC. *Id.* The GCVTC evaluated haze at Class I Areas on the Colorado Plateau, and determined that sulfur dioxide (SO₂) had the most significant impact on visibility. *Id.* Consequently, GCVTC recommended that SO₂ should be the focus of the stationary source reductions on the Colorado Plateau. *Id.* This recommendation was the basis of Utah's original Regional Haze SIP. *Id.*

On December 12, 2003, Utah prepared and submitted a Regional Haze State Implementation Plan (2003 RH SIP) to achieve natural visibility in national parks and other similarly-protected areas within its borders as required by the Clean Air Act (CAA) and EPA regulations. *Id.* ¶ 9. As sulfates were one of the primary pollutants of concern emitted by stationary sources in the Colorado Plateau, the 2003 RH SIP was heavily weighted to achieve SO₂ reductions. *Id.* ¶ 10. While Utah's RH SIP was focused on achieving SO₂ reductions from stationary sources, substantial reductions in NO_x were also projected to occur from stationary sources as well as mobile and non-road sources. *Id.* ¶ 11. Statewide NO_x emissions were expected to decline by 36% from 270,000 tons per year (tpy) to 172,000 tpy during the period of 1996 to 2018. *Id.*

The CAA mandates EPA determine whether a state's SIP submission is sufficient to meet the minimum criteria within 60 days of submittal. *See* 42 U.S.C. § 7410(k)(1)(B). If EPA finds a submission meets the minimum criteria, EPA must act within 12 months to approve, disapprove, or partially approve a state's SIP. *See id.* § 7410(k)(2). Contrary to these statutory obligations, EPA never acted on Utah's 2003 RH SIP submission.

Still having no approval from EPA, in June of 2008, the Utah Air Quality Board (Board)—Utah's air pollution rulemaking body—proposed a revision to the 2003 RH SIP. Decl. of Bryce Bird ¶ 12. The revision was necessary to address BART requirements for two other pollutants—NO_x and PM—and update the projection of visibility improvement based on the new requirements for NO_x and PM. *Id.* By that time, substantial SO₂ reductions had been achieved in the Colorado Plateau as a result of the measures implemented through Utah's 2003 RH SIP, notwithstanding EPA's failure to take the required final action. *Id.* ¶ 13.

In June of 2008, Utah informally submitted its proposed revised RH SIP (2008 RH SIP) to EPA, which included BART determinations and limits for NO_x and PM, for EPA's comment and approval. *Id.* ¶ 14. In July of 2008, EPA commented on the 2008 RH SIP during the state rulemaking process, criticizing Utah's BART analysis and enforceability of the proposed limits. *Id.* ¶ 15. On September 3, 2008, the Board finalized the 2008 RH SIP and responded in detail to EPA's comments regarding the BART analysis. *Id.* ¶ 16. As required by Section 7410 of the CAA, once approved by the Board, the 2008 RH SIP became legally binding on PacifiCorp as a matter of state law. *Id.*; see 42 U.S.C. § 7410(a).

On September 9, 2008, Utah formally submitted its 2008 RH SIP to EPA. *Id.* ¶ 17. Among other things, 2008 RH SIP required installation of NO_x and PM BART emissions controls on four electrical generating units at the Huntington and Hunter power plants that are owned or operated by PacifiCorp. *Id.* PacifiCorp installed these controls in compliance with the RH SIP. *Id.* EPA did not reach a final determination on Utah's 2008 RH SIP by March 9, 2010 (statutory deadline). *Id.* ¶ 18.

On December 20, 2010, Utah submitted a supplement to the 2008 RH SIP to further clarify Utah's BART determinations. *Id.* ¶ 19. On January 5, 2011, the Board proposed another revision to the 2008 RH SIP (2011 RH SIP Revision). *Id.* ¶ 20. The substantive changes in that Revision affected only the SO₂ milestones section of the plan and therefore did not constitute a new RH SIP submission with respect to the BART requirements for NO_x and PM. *Id.*

On February 24, 2011, EPA submitted comments in the state rulemaking process on the proposed 2011 RH SIP Revisions and the 2008 RH SIP. *Id.* ¶ 21. On May 16, 2012, EPA published a notice of proposed rulemaking in the Federal Register, proposing to partially approve and partially disapprove Utah's 2011 RH SIP Revision and the 2008 RH SIP. *Id.* ¶ 22. This

action was delayed almost three years. *Id.* ¶ 23. EPA acted only after WildEarth Guardians sued the agency for failure to perform a non-discretionary duty and obtained a consent decree that imposed deadlines on EPA to act on Utah's SIP submissions.⁶ *Id.*; see also *WildEarth Guardians v. Jackson*, No. 10-cv-01218-REB-BNB (D. Colo. Oct. 28, 2010).

On July 16, 2012, Utah submitted comments to EPA on the proposed disapproval, taking issue with a number of EPA's assertions regarding Utah's PM and NO_x BART analyses. Decl. of Bryce Bird ¶ 24. On December 14, 2012, nearly three years after the statutory deadline of March 9, 2010, EPA issued its final rule partially approving and partially disapproving Utah's 2011 RH SIP Revision and 2008 RH SIP. *Id.* ¶ 25. EPA amended this rule on January 22, 2013 to add some non-substantive language. *Id.* In the final rule, EPA disapproved the NO_x and PM BART provisions of the 2008 RH SIP. *Id.*

However, by the time EPA disapproved Utah's RH SIP in December 2012, the plan had already become legally binding state law requiring PacifiCorp to install the PM and NO_x BART controls on its units subject to the 2008 RH SIP. *Id.* ¶ 26. Through proactive planning during 2006 to 2014, PacifiCorp has installed new pollution controls on Hunter Units 1 and 2 in 2014 and 2011 respectively, and on Huntington Units 1 and 2 in 2010 and 2006 respectively. *Id.* ¶ 27.

Although EPA partially disapproved the Utah 2011 RH SIP Revision and 2008 RH SIP, EPA did not promulgate a regional haze *federal* implementation plan (RH FIP). *Id.* ¶ 28. Instead, EPA allowed Utah to re-evaluate and resubmit its PM and NO_x BART determinations. *Id.* Utah has worked diligently since 2012 to submit a revised RH SIP to EPA, leveraging its more than ten-year-long effort to develop a RH SIP that would meet EPA's view of the BART requirements. *Id.* ¶ 29. Utah proposed an initial RH SIP revision on October 1, 2014. *Id.* ¶ 30.

⁶ See *WildEarth Guardians v. Jackson*, No. 10-cv-01218-REB-BNB (D. Colo. Oct. 28, 2010).

Utah took public comment on this proposal and held a public hearing. *Id.* After receiving public comment, Utah decided to modify and re-propose its RH SIP revision. *Id.*

EPA's Regional Haze Rule provides two pathways to address BART: (1) a case-by-case determination under the provisions of 40 C.F.R. §51.308(e)(1) or (2) an alternative to BART under the provisions of 40 C.F.R. §51.308(e)(2). *Id.* ¶ 31. The October 2014 proposal contained a detailed 5-factor analysis for a BART determination under the case-by-case provisions established in 40 C.F.R. §51.308(e)(1). *Id.* ¶ 32. EPA's disapproval of the BART provisions for NO_x and PM in 2012 was primarily due to the alleged lack of a 5-factor analysis that met EPA's criteria. *Id.* The 5-factor analysis in the October 2014 proposal relied on visibility modeling completed by PacifiCorp in 2012. *Id.* The proposal reaffirmed the 2008 BART determinations for NO_x and PM. *Id.* Post-combustion controls for NO_x were evaluated and determined to be cost-prohibitive. *Id.* One factor considered as part of Utah's BART analysis was the no-cost co-benefit of visibility improvement expected to occur due to the planned closure of PacifiCorp's Carbon Plant in 2015. *Id.* To ensure the ongoing visibility benefit, the proposed October 2014 RH SIP revision made the closure enforceable. *Id.* The proposal also determined that the PM controls required in the 2008 BART determinations were the most stringent technology available and therefore met the criteria for BART. *Id.*

In November 2014, Utah completed additional modeling that included emission reductions from three electric generating units that were not subject-to-BART: PacifiCorp Carbon Unit 1, PacifiCorp Carbon Unit 2, and PacifiCorp Hunter Unit 3. *Id.* ¶ 33. These modeling results were made available for public review, and the public comment period was extended to allow adequate review. *Id.* After reviewing the modeling results as well as public comments received on the October 2014 RH SIP revision proposal, Utah prepared a new

proposal under 40 C.F.R. § 51.308(e)(2) that provided for an alternative to BART for NO_x. *Id.* ¶

34. Utah chose to demonstrate that the alternative measure achieves greater reasonable progress than would be achieved through BART by using a “weight of evidence” analysis under Section 308. *Id.* To support a “weight of evidence” analysis under Section 308, Utah collected and evaluated information from nine different metrics: (1) annual emissions of visibility-impairing pollutants; (2) improvement in the number of days with significant visibility impairment; (3) 98th percentile modeling impact in deciviews (dv); (4) annual average impact (dv); (5) 90th percentile modeling impact (dv); (6) timing of emissions reductions; (7) results from IMPROVE monitoring data; (8) energy and non-air quality benefits; and (9) costs. *Id.* ¶ 35.

Utah evaluated a number of different metrics to compare the BART benchmark (the most stringent control technology—low-NO_x burners with overfire air (LNB/SOFA) in conjunction with selective catalytic reduction (SCR)) to the BART Alternative. The emission reductions under the Alternative included reductions of SO₂ and PM in addition to NO_x and the visibility improvement could occur during different episodes and during different times of the year under the two scenarios. *Id.* ¶ 36. The only metric that did not support the BART Alternative was the 98th percentile modeling impact—the metric demonstrating visibility impacts on one of the most impaired days. *Id.* ¶ 37. Utah explained that the most stringent NO_x scenario (BART benchmark) barely achieved greater modeled visibility improvement than the Alternative on these high nitrate days because high nitrate values occur primarily in the winter months. *Id.* Utah also took into consideration that there is greater uncertainty regarding the effect of NO_x reductions on wintertime nitrate values because past NO_x emission reductions have not resulted in corresponding reductions in monitored nitrate values during the winter months. Utah has greater confidence in the visibility improvement due to reductions of SO₂ because past SO₂ reductions

have resulted in corresponding reductions in monitored sulfate values throughout the year. *Id.* ¶ 38.

Utah's BART Alternative compared the NO_x, SO₂, and PM emission reductions achieved across all three PacifiCorp Plants (Hunter, Huntington, and Carbon) with the emission reductions that would be achieved through the installation of the most stringent control technology for NO_x—LNB/SOFA with SCR. *Id.* ¶ 39. The analysis showed that combined emissions of NO_x, SO₂, and PM would be 2,856 tons per year lower under the alternative scenario. *Id.*

The Alternative also showed that it would improve visibility on more days throughout the year, would achieve a greater average visibility improvement, and would achieve greater reductions in SO₂—the most significant anthropogenic pollutant during the high visitation months of March through November. *Id.* ¶ 40. The visibility improvement that would occur under the most stringent control technology for NO_x during the winter months was more uncertain. *Id.* ¶ 41. The fact that ammonium nitrate levels were decreasing during most of the year, but were increasing during the winter, was the best indication that the increase in ammonium nitrate was not due to changes in emissions because the emission changes are not seasonal. *Id.* Besides, the significant NO_x reductions that have already occurred due to controls installed pursuant to Utah's 2008 RH SIP and the related BART determinations have not reduced ammonium nitrate values during the winter months when ammonium nitrate values are the highest, possibly due to low levels of ammonia that limit the formation of ammonium nitrate. *Id.* ¶ 42.

The timing of the reductions also supported the BART Alternative, demonstrating that the early emissions reductions commenced in 2006 and would provide "a corresponding early and on-going visibility improvement." *Id.* ¶ 43; *see also* Staff Review 2008 PM BART

Determination and Recommended Alternative to BART for NO_x, Utah Division of Air Quality (Utah Staff Review Report) at 1-13 (May 13, 2015).

Utah considered cost as one of the factors also weighing in favor of the BART Alternative. *Id.* ¶ 44. Utah found that the Alternative achieves better visibility improvements than the BART benchmark at a significantly lower cost, which presents a classic “win/win” scenario for all the affected parties. *Id.* The BART Alternative also avoided a \$2 million energy penalty and created environmental benefits from the closure of the Carbon plant. *Id.* ¶ 45. Specifically, the closure reduced water usage, eliminated wastewater discharge, eliminated production of solid wastes in the form of fly ash, reduced fugitive dust, eliminated all emissions, fuel use, and other maintenance, testing, and operational processes for emergency generators, fire pumps, and ancillary equipment at the Carbon plant. *Id.*

Utah has reviewed and prepared a detailed Technical Support Document consisting of six chapters and over 2,000 pages to support its PM₁₀ BART and NO_x BART Alternative determinations. *Id.* ¶ 46. Besides the 36-page staff review summarizing these determinations, the Technical Support Document includes PacifiCorp’s BART analysis for all units, Utah’s five-factor BART analysis update, DAQ’s engineering review, emissions inventory, IMPROVE monitoring data, and visibility modeling. *Id.*

Utah developed the BART Alternative for NO_x through close collaboration and consultation with EPA. *Id.* ¶ 47. Utah and EPA worked together as regulatory partners to ensure that Utah’s BART Alternative was approvable. *Id.* EPA submitted comments on Utah’s BART Alternative during the state rulemaking public comment period that did not point to any substantive flaws in Utah’s submission and did not direct Utah to weigh the evidence differently under the “weight of evidence” analysis. *Id.* ¶ 48. The only modifications EPA requested were

minor clarifications and revisions. *Id.* EPA only raised one substantive issue during the collaboration process—proper accounting for the SO₂ emissions reductions due to closure of the Carbon plant and clarification of emission inventory requirements for tracking compliance with the SO₂ milestone. *Id.* ¶ 49. Utah submitted its revised RH SIP for NO_x and PM to EPA on June 4, 2015. *Id.* ¶ 50. On October 20, 2015, Utah submitted a SO₂ commitment SIP to EPA pledging to revise SIP Section XX.D.3.c and State rule in Utah Administrative Code R307-150 by March 2018 to address these concerns. *Id.* ¶ 51. EPA did not take action on this SIP in its final rule, essentially causing Utah’s efforts to draft and submit the SO₂ commitment SIP to become a wasted effort. *Id.*

II. The Final Rule Partially Disapproving Utah’s RH SIP

EPA issued the final rule partially approving and partially disapproving Utah’s 2015 RH SIP submission—just two years before the 2018 expiration of the first ten-year planning period covered by the revision. The final rule promulgates a FIP that requires the BART-eligible units to install SCR by August of 2021. *See* 81 Fed. Reg. 43907. To arrive at this decision, EPA reweighed the metrics Utah submitted in support of the BART Alternative (disregarding some of the metrics completely) and concluded that Utah’s BART Alternative “does not demonstrate greater reasonable progress than BART.” *Id.* at 43896.

To support its “weight-of evidence” analysis under 40 C.F.R. § 51.308 in its 2015 RH SIP submission, Utah collected, evaluated, and weighed information from nine different metrics: (1) annual emissions of visibility-impairing pollutants; (2) improvement in the number of days with significant visibility impairment; (3) 98th percentile modeling impact (dv); (4) annual average impact (dv); (5) 90th percentile modeling impact (dv); (6) timing of emissions reductions; (7) results from IMPROVE monitoring data; (8) energy and non-air quality benefits; and (9) costs. *See* Utah Staff Review Report at 27; Utah’s SIP, Section XX, Regional Haze (June

3, 2015). Utah fashioned its analysis around the considerations for determining BART, namely costs, energy and non-air quality benefits, existing pollution control equipment, and visibility improvement. Most of the metrics focused on visibility improvement because this is the most difficult factor to quantify and predict.

Utah's analysis considered all of these factors in their totality consistent with the Regional Haze Rule (RHR), which states, "Because each Class I area is unique, we believe States should have flexibility to assess visibility improvements due to BART controls by one or more methods, or by a combination of methods" 70 Fed. Reg. 39,104-01, 39,129 (July 6, 2005). The rule also reads that the "States are free to determine the weight and significance to be assigned to each factor." *Id.* at 39,130. Utah concluded that all factors except for the 98th percentile modeling impact (which slightly supports the BART benchmark more than the Alternative) supported the BART Alternative and therefore, the "weight of evidence shows that the alternative program will provide greater reasonable progress than BART." Utah Staff Review Report at 11-12. Utah weighed the relative strength and weaknesses of the 98th percentile metric and found it to be less reliable because it only measured the extreme tails of the model predictive. *Id.* at 24-25. The highest ends of the model are often influenced by non-anthropogenic factors—in this case lower temperatures in the winter that cause higher values of ammonium nitrate. Utah gave the early emissions reductions, the monitoring data, and the number of days with improved visibility impacts more weight than the single 98th percentile modeling impact factor. *Id.* at 16, 24-25.

In its final rule adopting the partial disapproval, EPA excluded energy and non-air quality benefits and costs from consideration and dismissed as inconclusive the annual emissions comparison for visibility-impairing pollutants that supported the BART Alternative because Utah

determined that SO₂ and PM emissions had equivalent, or stronger, impacts on visibility than NO_x emissions. EPA then imposed a novel and legally unsupportable test on weighing the evidence individually and collectively, that it has never applied in prior regional haze actions, and re-weighed the evidence, assigning less weight to some metrics and more weight to the other metrics or entirely dismissing some of the evidence as inconclusive. Most importantly, EPA assigned marginal weight to the actual monitoring data and placed the most weight on the 98th percentile metric, which is a modeled projection of visibility improvement on the selected worst days of the year.

ARGUMENT

Pending judicial review, EPA can “postpone the effective date of action taken by it” when “justice so requires.” 5 U.S.C. § 705. To determine whether justice requires imposition of a stay, EPA has applied the traditional four-factor analysis:⁷ (1) likelihood that the party seeking the stay will prevail on the merits of the appeal; (2) likelihood that the moving party will be irreparably harmed absent a stay; (3) the prospect that others will be harmed if the stay is granted; and (4) the public interest in granting the stay. *See Chamber of Commerce v. Edmondson*, 594 F.3d 742, 764 (10th Cir. 2010); *Winter v. NRDC*, 555 U.S. 7, 20 (2008); *Sierra Club v. Jackson*, 833 F. Supp. 2d 11, 30 (D.D.C. 2012). The most critical factors of this test are the first two — the likelihood of success on the merits and irreparable harm. *See Nken v. Holder*, 556 U.S. 418, 434 (2009). However, at the same time, an agency reviewing a request for a stay is to review these factors in their totality and not in a rigid or isolated manner. For example, if a party demonstrates that it satisfies the last three factors, a lesser showing may be sufficient with

⁷ EPA has traditionally applied the same test for stay as applies to judicial requests for preliminary injunctions. *See Corn Savings & Loan Ass’n v. Fed. Home Loan Bank Bd.*, 562 F. Supp. 279, 280 (E.D. Ark. 1983); *Schwartz v. Covington*, 341 F.2d 537, 538-39 (9th Cir. 1965); *Hamlin Testing Laboratories, Inc. v. U. S. Atomic Energy Comm’n*, 337 F.2d 221, 222 (6th Cir. 1964); *Nat’l Indian Youth Council v. Andrus*, 623 F.2d 694, 695 (10th Cir. 1980); *Associated Securities Corp. v. SEC*, 283 F.2d 773, 775 (10th Cir. 1960).

respect to the first factor. *See Fed. Lands Legal Consortium v. United States*, 195 F.3d 1190, 1195 (10th Cir. 1999) (if the moving party establishes that the last three factors of the test are in its favor, the party may ordinarily satisfy the first factor by “showing that questions going to the merits are so serious, substantial, difficult and doubtful as to make the issue ripe for litigation and deserving of more deliberate investigation”).⁸

For the reasons explained below, Utah satisfies all of these factors. Consequently, EPA should stay the portion of the final rule disapproving the NO_x BART Alternative and promulgating the FIP and toll the effective date of the rule pending judicial review.

I. Utah is Likely to Succeed on the Merits

A reviewing court will invalidate EPA action if it is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law . . . in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; or without observance of procedure required by law. . . .” 42 U.S.C. § 7607(d)(9). Agency action is arbitrary and capricious if the agency

(1) entirely failed to consider an important aspect of the problem, (2) offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise, (3) failed to base its decision on consideration of the relevant factors, or (4) made a clear error of judgment.

San Juan Citizens Alliance v. Stiles, 654 F.3d 1038, 1045 (10th Cir. 2011) (quoting *New Mexico ex rel. Richardson v. Bureau of Land Mgmt.*, 565 F.3d 683, 704 (10th Cir. 2009).

The portion of the EPA’s final rule disapproving Utah’s NO_x BART Alternative and promulgating a FIP has serious flaws on a number of critical issues, including legal misinterpretations, improper application of statutes and regulations that govern BART

⁸ The Tenth Circuit may apply a heightened standard of review to “disfavored” preliminary injunctions. In *O Centro Espirita Beneficiente Uniao Do Vegetal v. Ashcroft*, 389 F.3d 973, 975 (10th Cir. 2004) (en banc) (per curiam), the Tenth Circuit identified as disfavored: (1) preliminary injunctions that alter the status quo; (2) mandatory preliminary injunctions; and (3) preliminary injunctions that afford the movant all the relief that it could recover at the conclusion of a full trial on the merits. The stay requested here does not fall into any of these categories.

Alternative determinations, and flawed technical grounds. In addition, the CAA charges EPA to approve Utah's SIP if it meets the requirements of the Act. *See* 42 U.S.C. § 7410(k)(3) (emphasis added) ("In the case of any submittal on which the Administrator is required to act under paragraph (2), the Administrator **shall** approve such submittal as a whole if it meets all of the applicable requirements of this chapter."). EPA may not disapprove a SIP based on a difference of opinion. *See Train v. Nat. Res. Def. Council*, 421 U.S. 60, 79 (1975).

Therefore, Utah is likely to succeed on the merits and will satisfy the Tenth Circuit's more liberal test of showing "that questions going to the merits are so serious, substantial, difficult and doubtful" that they are ripe for litigation and deserve a "more deliberate investigation." *Fed. Lands Legal Consortium*, 195 F.3d 1190, 1195; *see also Otero Sav. & Loan Ass'n v. Fed. Reserve Bank of Kansas City, Mo.*, 665 F.2d 275, 278 (10th Cir. 1981).

Additionally, the burden of proof on a movant to satisfy this element is low. A movant must only make a prima facie case "showing a reasonable probability that he will ultimately be entitled to the relief sought." *Lundgrin v. Claytor*, 619 F.2d 61, 63 (10th Cir. 1980) (quoting *Crowther v. Seaborg*, 415 F.2d 437, 439 (10th Cir. 1969)). Utah satisfies this first most critical element of the test.

A. EPA Abused its Discretion by Imposing a Novel and Legally Unsupported Test for Weighing the Elements and Then Re-Weighing the Elements Under the "Weight-of-Evidence" Test and Substituting its Judgment for Utah's Reasonable Determination that BART Alternative Achieves Greater Reasonable Progress than BART

The CAA "uses [a] cooperative-federalism approach to regulate air quality." *Oklahoma v. EPA*, 723 F.3d 1201, 1204 (10th Cir. 2013) (quoting *U.S. Magnesium, LLC v. EPA*, 690 F.3d 1157, 1159 (10th Cir. 2012)). As the D.C. Circuit explained under this approach, "EPA determines the . . . standards of air quality—but Congress has given the states the initiative and a broad responsibility regarding the means to achieve those ends through state implementation

plans and timetables of compliance” *Virginia v. EPA*, 108 F.3d 1397, 1408 (D.C. Cir. 1997) (quoting *Bethlehem Steel Corp. v. Gorsuch*, 742 F.2d 1028, 1036-37 (7th Cir. 1984)). The federalism requirements of the SIP development process are reinforced by President Clinton’s Executive Order 13,132 issued on August 4, 1999. The Order directs EPA to avoid actions limiting the policymaking discretion of individual states unless there is both constitutional and legislative authority to override a state, granting the states “the maximum administrative discretion possible.” 64 Fed. Reg. 43,255, 45,256 (1999). This directive is consistent with the congressional intention that the states are the primary authors of their own SIPs and should be afforded considerable deference in interpreting and implementing SIP programs.

EPA is obligated to approve a SIP that meets all the applicable requirements of the CAA and the Regional Haze Rule. *See* 42 U.S.C. § 7410(k)(3); *see also Train*, 421 U.S. at 79 (finding that the CAA gives the EPA “no authority to question the wisdom of a State’s choices of emission limitations if they are part of a plan which satisfies the standards of 110(a)(2).”). Under the holdings of various courts across the nation, EPA’s review of the states’ SIP submissions is limited to finding errors and lack of compliance with the federal requirements⁹ but does not go as far as substituting EPA’s discretion for a state’s reasonable discretion.

By imposing EPA’s contrary opinion on the nine metrics where Utah’s approach complied with the CAA and the Regional Haze Rule, EPA violated the CAA’s “cooperative federalism” framework. *See Dominion Transmission, Inc. v. Summers*, 723 F.3d 238, 240 (D.C. Cir. 2013). The RH SIP framework is designed to allow a state to create programs that meet the

⁹ *See e.g. Oklahoma v. EPA*, 723 F.3d 1201 (10th Cir. 2013) (denying Oklahoma’s petition for review of EPA’s disapproval of Oklahoma’s SIP because the state cited erroneous financial data in support of using . . .); *See Texas v. EPA*, 2016 WL 3878180, at *1 (citing *Luminant Generation Co. LLC v. EPA*, 675 F.3d 917, 921 (5th Cir. 2012) (internal quotation marks omitted) (holding that the CAA “confines EPA’s role in implementing air quality standards” to “reviewing SIPs for consistency with the Act’s requirements.”); *North Dakota v. EPA*, 730 F.3d 750 (8th Cir. 2013) (finding that EPA’s disapproval of BART determinations by North Dakota for coal-powered electricity generating plant was not arbitrary, capricious, or abuse of discretion because analysis contained data flaws that led to overestimated cost of compliance under CAA).

federal requirements and at the same time balance costs and visibility improvements, taking into account the interests of the states' citizens and economy. EPA acts arbitrarily and capriciously when it ignores this framework and substitutes its own discretion for a state's discretion contrary to the CAA, which indicates "a congressional preference that states, not EPA, drive the regulatory process." *Texas v. EPA*, 2016 WL 3878180, at *1.

Against this backdrop, Utah's RH SIP for NO_x BART satisfied all of the applicable statutory and regulatory criteria. An approvable BART alternative must satisfy the following elements: (1) a demonstration that the alternative measure "will achieve greater reasonable progress than would have resulted from the installation and operation of BART at all sources subject to BART in the State and covered by the alternative program;" (2) a requirement that "all necessary emission reductions take place during the period of the first long-term strategy for regional haze;" and (3) a demonstration that "the emission reductions resulting from . . . [the] alternative measure will be surplus to those reductions resulting from measures adopted to meet requirements of the CAA as of the baseline date of the SIP." 40 C.F.R. § 51.308(e)(2)(i)-(iv). The first element is at issue in this final action because EPA correctly found that Utah's BART Alternative for NO_x met the second and third requirements. *See* 81 Fed. Reg. 2004, 2025-2026, 2032 (Jan. 16, 2016) (proposed rule). Utah chose to demonstrate greater reasonable progress using the "weight-of-evidence" test under 40 C.F.R. Section 51.308(e)(2).

Utah's RH SIP for NO_x BART Alternative included analysis of nine factors selected by the state (including cost of compliance and energy and non-air quality environmental impacts of compliance), supported by visibility modeling, actual monitoring data of haze-causing particles, and a demonstration of early and on-going visibility improvement contained in the detailed Technical Support Document. Utah elected to use a number of different factors to compare the

BART Alternative to the BART benchmark (the most stringent control technology—LNB/SOFA with SCR), including reductions of SO₂ and PM in addition to NO_x and the variability in timing of visibility improvements depending on the season.

Only one out of the nine metrics—the 98th percentile modeled impact—did not support the finding that the BART Alternative achieves greater reasonable progress than BART. *See* Utah Staff Review Report at 24. However, this metric is only marginally non-supportive of the BART Alternative for two reasons: (1) the metric shows greater visibility improvement under the BART benchmark at five out of nine Class I areas subject to the final rule, i.e. only slightly more than half (55%) of the areas show preference for BART benchmark (with an average difference of just 0.14 dv); and (2) the modeling captured visibility improvement on the high nitrate days without considering seasonal changes in nitrates due to winter temperatures rather than emissions from stationary sources. IMPROVE monitoring data demonstrates that there is greater uncertainty regarding the effect of NO_x emissions reductions on wintertime nitrate values because past NO_x emission reductions have not resulted in corresponding reductions in monitored nitrate values during the winter months.¹⁰ Ammonium nitrate levels were decreasing during most of the year, but were increasing during the winter, which was the best indication that the increase in the ammonium nitrate was not due to changes in emissions because the emission changes are not seasonal.

In its final rule, EPA overstepped its statutory and regulatory authority of reviewing SIPs “for consistency with the Act’s requirements,” and instead re-weighed each of the factors to arrive at the opposite conclusion. *See Luminant Generation Co. LLC v. EPA*, 675 F.3d 917, 921 (5th Cir. 2012) (citing 42 U.S.C. § 7410(k)(3)).

¹⁰ To contrast, reductions of SO₂ have resulted in corresponding reductions in monitored sulfate values throughout the year.

B. EPA Arbitrarily and Capriciously Excluded Cost and Non-Air Quality Benefits from the BART Alternative Determination

EPA arbitrarily and capriciously found that the costs of compliance and energy/non-air quality environmental impacts should not be assigned any weight because they “do not evaluate visibility benefits at the nine Class I areas impacted by the State’s sources.” 81 Fed. Reg. 43894-01, 43897. However, consideration of these factors is required by the CAA, 42 U.S.C. § 7491(g)(2), and the analysis of these factors are part of the BART Guidelines (which EPA cites in the final rule as relevant authority for its disapproval), 40 C.F.R. pt. 51, App’x Y. The CAA directs that for purposes of “determining best available retrofit technology the State . . . shall take into consideration the costs of compliance, the energy and nonair quality environmental impacts of compliance” 42 U.S.C. § 7491(g)(2). Evaluation of cost and non-air quality benefits is an explicit part of the BART Guidelines that EPA relies on to evaluate Utah’s BART Alternative (specifically the 98th percentile metric). *See* 40 C.F.R. pt 51, App’x Y, § IV.D.4.i.

EPA refused to follow the law, and its own related guidance, and assign any weight at all to these two factors in evaluating the BART Alternative. Yet both of these factors have a substantial impact when one compares the BART benchmark to the BART Alternative. Utah correctly placed significant weight on the zero additional cost for the BART Alternative and the greater reasonable progress resulting from it:

The costs to Utah rate payers (and those in other states served by PacifiCorp) to replace the power generated by the Carbon Plant have already occurred; there will be no additional cost to achieve the co-benefit of visibility improvement. In other words, the Alternative Measure achieves better visibility improvements than would be achieved by requiring SCR as BART at the four EGUs, and at a significantly lower cost. **This presents a classic “win/win” scenario –the Alternative Measure results in greater reasonable progress and that greater reasonable progress is achieved at a much lower price compared to SCR.**

Utah Staff Review Report at 27 (emphasis added). Further, Utah properly took into account the energy penalty associated with the most stringent NO_x control at over \$2 million per year and

other environmental non-air quality impacts. *See id.* at 26, Table 13. These impacts resulted from the closure of the Carbon plant, which reduced solid waste, wastewater discharge, water use, fugitive dust, and eliminated air emissions, fuel use, and maintenance of the plant equipment. *See id.* at 26.

EPA erred in dismissing these metrics, which clearly weigh in favor of the BART Alternative. Instead, EPA imposed a FIP that will cost rate payers \$700 million and result in projected incremental modeled improvement in visibility of only 0.14 dv over the BART Alternative according to only one metric. *See* PacifiCorp's Comments Re: Approval, Disapproval and Promulgation of Air Quality Implementations Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; State of Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze (PacifiCorp's Comments) at 1, n.2 ("... adding LNB/OFA/SCR to the Utah BART Units will cost approximately \$170 million for each unit, with the total for all four Utah BART Units exceeding \$700 million.") (March 14, 2016); 81 Fed. Reg. at 2030 (footnote omitted) ("On the whole, when using this method, the BART Benchmark is slightly better on average across all years and nine Class I areas (0.14 dv difference).").

C. EPA's FIP Violates Applicable Laws and is not Legally Sustainable

In the event the state has not complied with the requirements of the CAA, EPA can become a primary regulator by promulgating a federal implementation plan within two years of disapproval. 42 U.S.C. § 7410(c)(1). EPA promulgates the federal implementation plan "to fill all or a portion of a gap . . . in a State implementation plan." *Id.*, § 7602. Consequently, EPA's obligations and authority to promulgate the federal implementation plan are the same as the state's when promulgating its implementation plan. *See, e.g.*, 77 Fed. Reg. 40,150, 40,164 (July 6, 2012) ("At the point EPA becomes obligated to promulgate a FIP, EPA steps into the State's

shoes, and must meet the same requirements. . . .”). In this case, EPA’s FIP violates applicable laws and is not legally sustainable for the following reasons.

First, EPA’s FIP requires implementation of the control measures (SCR) by 2021, which is beyond the current regional haze planning period ending in 2018.¹¹ EPA may not include BART measures that would be implemented beyond the current implementation period in a FIP that is ostensibly filling a gap in the revision that covers the period ending in 2018. The Regional Haze Rule requires states to develop an implementation plan for the period from 2009–2018 and to submit revised plans for each ten-year period thereafter. 40 C.F.R. § 51.308(b), (f). Initial state implementation plans were due December 17, 2007.¹² *Id.* § 51.308(b). When it promulgated the Regional Haze Rule, EPA elected to bind states to a ten-year revision period. 40 C.F.R. § 51.308(f). When EPA steps into the shoes of a state to develop a federal implementation plan, that period is as binding on EPA as it was on the state. *See* 77 Fed. Reg. at 40,164 (“At the point EPA becomes obligated to promulgate a FIP, EPA steps into the State’s shoes, and must meet the same requirements. . . .”). EPA has definitively stated that the first regional haze planning period for Utah ends in 2018. 77 Fed. Reg. 28,825, 28,838 (May 16, 2012) (“The first planning period ends in 2018.”); 77 Fed. Reg. 74,355, 74,368 (Dec. 14, 2012) (“Nor, at this time, are such emissions increases expected during the first planning period (2003-2018).”)

The regional haze planning process is iterative, as provided by both the CAA and the Regional Haze Rule. *See* 64 Fed. Reg. at 35,734 (requiring “control strategies to cover an initial implementation period extending to the year 2018, with a reassessment and revision of those

¹¹ EPA has proposed an amendment to the RH rule to extend the deadline for the states’ comprehensive SIP revisions for the second implementation period to 2021. 81 Fed. Reg. 26,942 (May 4, 2016) (proposing revisions to 40 C.F.R. § 51.308(f)). The amendment extends the SIP revision submission deadline only and not the length of the implementation period. *Id.* at 26,944 (EPA does not intend for “the proposed changes to affect the development of state plans for the first implementation period . . . due under the existing Regional Haze Rule.”).

¹² Utah’s initial regional haze state implementation plan was timely submitted in 2003.

strategies, as appropriate, every 10 years.”). Therefore, it was improper for EPA to prescribe installation of SCR in 2021 because Utah had to require installation of BART controls by 2018.

EPA addresses this argument in its response to comments, claiming that because it promulgates the RH FIP for Utah under 40 C.F.R. § 51.308(e)(1), the controls must be installed under the FIP “as expeditiously as possible” instead of by the end of the first planning period as 40 C.F.R. § 51.308(e)(2) requires. EPA Response to Comments, Docket No. EPA-R08-OAR-2015-0463 at 338. EPA’s argument is unpersuasive because it contradicts EPA’s prior statements on the timing of the BART determinations in other states and the end of the planning period for Utah. For example, in promulgating the final rule for Wyoming BART determinations, EPA commented, “[a]dditionally, BART is required in the first planning period, which ends in 2018, and is required to be installed as expeditiously as practicable” 79 Fed. Reg. 5032-01, 5055 (Jan. 30, 2014). And also, “The requirement for states to implement BART applies during the first planning period ending in 2018 and is the first increment of progress.” *Id.* at 5170. Similarly, in approving Maine’s revision to the Maine SIP addressing regional haze for the first planning period from 2008 through 2018, EPA stated, “States must determine BART eligibility and controls only during this first planning period and therefore Maine is not required to reevaluate its BART determination if utilization of the boiler increases.” 77 Fed. Reg. 24385-01, 24387 (April 24, 2012). In taking the final action on Arizona’s regional haze SIP, EPA articulated this requirement as follows, “While the goal of the regional haze program is to achieve natural visibility conditions in all mandatory Class I Federal areas by 2064, the requirement for states to implement BART applies only during the first planning period ending in 2018.” 77 Fed. Reg. 72512, 72534 (Dec. 5, 2012).

Second, when establishing the baseline emissions in order to calculate the cost-effectiveness of the SCR, EPA did not take into account the impact of the existing controls. EPA violated the CAA and BART Guidelines, as this error skewed the BART analyses when it comes to cost-effectiveness. *See* 42 U.S.C. § 7491(g)(2) (requiring the regulating agency to take into account “any existing pollution control technology in use at the source[.]”); 40 C.F.R. pt. 51, App’x Y, § IV.D.4.d (emphasis added) (“[t]he baseline emissions should represent a **realistic** depiction of **anticipated** annual emissions for the source. In general, for the existing sources subject to BART, you will estimate the anticipated annual emissions based upon actual emissions from a baseline period.”); *see also North Dakota v. EPA*, 730 F.3d 750, 762, 764 (8th Cir. 2013) (holding that EPA’s refusal to consider the existing pollution control technology that was installed voluntary two years prior EPA’s BART determination for purposes of calculating cost-effectiveness was arbitrary and capricious).

Third, the FIP is imposing \$700 million in installation costs without any corresponding perceptible visibility benefit. At best, EPA claims one metric out of nine shows an average of 0.14 dv improvement from the BART benchmark over the Alternative, an imperceptible modeled visibility improvement costing over one half a billion dollars. The imposition of such costs without any corresponding benefit is irrational and unlawful. *See* 42 U.S.C. § 7491(g)(1) (including “the costs of compliance” in determination of reasonable progress); *Michigan v. EPA*, 135 S. Ct. at 2707 (“One would not say that it is even rational . . . to impose billions of dollars in economic costs in return for a few dollars in health or environmental benefits.”).

II. Absent an Immediate Stay, Utah will Suffer Irreparable Harm

The courts generally consider three factors in evaluating the harm that will occur: (1) the substantiality and seriousness of the alleged injury; (2) the likelihood of its occurrence (i.e. the injury must be actual and not purely speculative); and (3) the adequacy of the proof provided.

See *Cuomo v. United Nuclear Regulatory Comm'n*, 772 F.2d 972, 977 (D.C. Cir. 1985); see also *Vill. of Logan v. U.S. Dep't of Interior*, 577 F. App'x 760, 766 (10th Cir. 2014) (quoting *Heideman v. S. Salt Lake City*, 348 F.3d 1182, 1189 (10th Cir. 2003) (finding that the injury must be "actual and not theoretical"). When determining whether a petitioner satisfied this prong, the courts assign more weight to irreparability of the injury rather than its magnitude. See e.g. *Dennis Melancon, Inc. v. City of New Orleans*, 703 F.3d 262, 279 (5th Cir. 2012); *Enter. Int'l, Inc. v. Corporacion Estatal Petrolera Ecuatoriana*, 762 F.2d 464, 472 (5th Cir. 1985) ("Federal courts have long recognized that, when 'the threatened harm is more than de minimis, it is not so much the magnitude but the irreparability that counts for purposes of a preliminary injunction."). An injury is irreparable when any of the following circumstances are present: (1) "it is not practicable to calculate damages to remedy this kind of harm", *Foodcomm Int'l v. Barry*, 328 F.3d 300, 304 (7th Cir. 2003); (2) damages would not be available due to the government's sovereign immunity, see, e.g., *Chamber of Commerce v. Edmondson*, 594 F.3d 742, 770-71 (10th Cir. 2010) ("Imposition of monetary damages that cannot later be recovered for reasons such as sovereign immunity constitutes irreparable injury"); *Patton v. Dole*, 806 F.2d 24, 28 (2d Cir. 1986) (finding irreparable harm where plaintiff likely would have no damages claim because of the federal government's sovereign immunity); (3) expenditures required by the rule will interfere with the states' sovereign priorities. "Directing a priority expenditure from the state treasury 'may derange the operations of government, and thereby cause serious detriment to the public.'" *Barnes v. E-Sys., Inc. Grp. Hosp. Med. & Surgical Ins. Plan*, 501 U.S. 1301, 1304 (1991) (Scalia, J., in chambers) (quoting *Dows v. City of Chicago*, 78 U.S. (11 Wall.) 108, 110 (1870)).

As discussed below, the facts presented in this request demonstrate that Utah will suffer irreparable harm if EPA does not stay the final rule and toll the effective date of the FIP.

EPA's FIP became effective on August 4, 2016, and requires PacifiCorp to complete installation of the SCR on all four units within five years of the effective date. Taking into account the complexity of the installation and the number of units subject to the FIP, five years is a stringent deadline. PacifiCorp must begin procuring goods and services necessary to comply with the FIP. In other words, PacifiCorp cannot delay the installation until the Tenth Circuit resolves the legal challenge to the final rule. Thus, if EPA does not stay the rule, PacifiCorp would be incurring substantial unnecessary costs to install SCR in the likely event that the Tenth Circuit overturns the final rule. The substantial costs could cause PacifiCorp to decide to retire some plants early to comply with the FIP. It would be cost-prohibitive to reopen the affected plants in the event the court ultimately concludes that EPA acted unlawfully.

Any costs PacifiCorp will incur in the process of complying with the FIP will be passed on to Utah's citizens and businesses in the form of higher electricity rates, which EPA acknowledges are "not trivial" and will potentially go up 5 to 10%. EPA Response to Comments, Docket No. EPA-R08-OAR-2015-0463 at 370; *see also supra* n.3. Currently, Rocky Mountain Power (the business name under which PacifiCorp operates in Utah) supplies electricity to more than 1.8 million residential and business customers in Utah (including Utah state government offices) and five other western states. Utah clearly has an economic interest at stake, and if the Tenth Circuit overturns the final rule, Utah cannot recover these costs from EPA because of federal sovereign immunity. Therefore, Utah's harm is irreparable because it cannot be redressed monetarily. *See Odebrecht Constr., Inc. v. Sec'y, Fla. Dep't of Transp.*, 715 F.3d 1268, 1289 (11th Cir. 2013) ("[N]umerous courts have held that the inability to recover monetary damages

because of sovereign immunity renders the harm suffered irreparable.”); *Iowa Utils. Bd. v. FCC*, 109 F.3d 418, 426 (8th Cir. 1996); *Kansas v. United States*, 249 F.3d 1213, 1227-28 (10th Cir. 2001); *Thunder Basin Coal Co.*, 510 U.S. at 220-21 (Scalia, J concurring).

The expenses that Rocky Mountain Power’s Utah customers will incur are analogous to a situation where a party suffers monetary damages that are not otherwise recoverable. Courts have held that “[i]mposition of money damages that cannot later be recovered for reasons such as sovereign immunity constitutes irreparable injury.” *Edmonson*, 594 F.3d at 770-71 (finding that various business organizations would suffer irreparable harm if they had to pay a tax later deemed unconstitutional because they would not be able to recover taxes paid to the state due to the state’s sovereign immunity); *see also Crowe & Dunlevy, P.C. v. Stidham*, 640 F.3d 1140, 1157 (10th Cir. 2011) (finding that an order directing law firm to temporarily repay fees to its Indian tribe client would have caused irreparable harm to the law firm due to the Indian tribe’s sovereign immunity and inability to repay the fees at a later date); *Kansas Health Care Ass’n v. Kansas Dep’t of Social & Rehabilitation Servs.*, 31 F.3d 1536, 1543 (10th Cir. 1994) (finding irreparable harm based on the petitioner’s inability to recover funds from the government defendant).

The economic impact of EPA’s FIP is not limited to the increased rates but may also result from the early closure of the plants subject to the regulation. The two plants, Hunter and Huntington, operated and largely owned by PacifiCorp, are located in Emery County, Utah. Presently, Emery County faces significantly higher unemployment than the rest of the state and the United States. Emery County has 7.0% unemployment compared to the state and nationwide averages of 4.0% in and 4.9% respectively.¹³ Jobs in the utility and mining industries represent

¹³ Economic Snapshot – Emery County Unemployment Rate June 2016, <http://jobs.utah.gov/wi/regions/county/emery.html> (last visited September 1, 2016).

nearly 30% of the private sector jobs in Emery County, and of those combined industry jobs, PacifiCorp's plant operations constitute 60%.¹⁴ Plant closures would have permanently deleterious effects on the employment and infrastructure of the rural communities in the county and surrounding areas. The mining industry will be affected also. A good example is the Deer Creek Canyon Mine owned and operated by PacifiCorp subsidiary Energy West Mining. The 2015 closure of the mine resulted in the loss of 182 jobs in Emery County.¹⁵

Absent a stay of the final rule, Utah will also experience significant regulatory complications in preparing Utah's plan to comply with the CPP rule. Decl. of Bryce Bird ¶ 52. Even though the U.S. Supreme Court has currently stayed the CPP rule, the D.C. Circuit Court of Appeals is handling the CPP legal challenge on an expedited basis. *Id.* ¶ 53. The full court (en banc) will hear arguments on the merits on September 27, 2016 with the decision to be expected in early 2017. *Id.* A petition for writ of certiorari to the U.S. Supreme Court is highly likely and, if granted, the final decision on CPP may issue as early as the beginning of 2018. *Id.*

In the event the courts uphold CPP, Utah would need to immediately begin preparing its state plan even if EPA or the courts extend compliance deadlines. *Id.* ¶ 54. CPP imposes significant obligations on the states beyond what the states have experienced under the Clean Air Act or any other federal rule. *Id.* Preparing a state plan will be a complicated task, which will take Utah some time to complete. *Id.* ¶ 55. Among other things, it will involve interstate

¹⁴ "Employment and Wages Emery County 4th Quarter 2015," available at <http://jobs.utah.gov/jsp/wi/utalmis/industrydetail.do> (last visited September 1, 2016); see also Hunter Plant II Fact Sheet, http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/EnergyGeneration_FactSheets/RMP_GFS_Hunter.pdf (last visited September 1, 2016); Huntington Plant Fact Sheet, http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/EnergyGeneration_FactSheets/RMP_GFS_Huntington.pdf (last visited September 1, 2016).

¹⁵ Jason Lee, *PacifiCorp to close Deer Creek Mine in 2015*, Des. News., Dec. 15, 2014, available at <http://www.deseretnews.com/article/865617785/PacifiCorp-to-close-Deer-Creek-Mine-in-2015.html?pg=all> (last visited September 1, 2016); see also Barry Casell, *PacifiCorp clears way for permanent shutdown of Deer Creek coal mine in Utah*, Aug. 10, 2015, available at <http://www.power-eng.com/articles/2015/08/pacificorp-clears-way-for-permanent-shutdown-of-deer-creek-coal-mine-in-utah.html> (last visited September 1, 2016).

collaboration, interagency analyses, working with the regulated community, and consultation with various stakeholders to determine what is technically feasible. *Id.*

As part of its CPP compliance plan, Utah may opt to develop a tradable emissions allowance system, where the facilities would need to begin retiring an allowance for each ton of CO₂ they emit. *Id.* ¶ 56. If CPP withstands legal challenge, Hunter and Huntington plants will be subject to the rule. *Id.* ¶ 57. Installing SCR controls required by the regional haze FIP at this time would make it more likely that these plants would have to continue to operate to recoup the costs of controls and, at the same time, continuing operation would become increasingly costly as CPP allowances become more scarce over time. *Id.* This is where the measures required by the CPP and the regional haze FIP imposed by EPA may be at odds. *Id.* ¶ 58. The CPP will put pressure on all coal-fired power plants, including Hunter and Huntington, to either close, curtail operations, or continue operating at higher costs due to the allowance retirement requirement. *Id.* Whereas, the installation of SCR under the FIP will necessitate continued operation of these plants at the current capacity in order to recover the significant capital investment costs. *Id.*

Taking into account a finite useful life of these units, addition of SCR will complicate Utah's regulatory scheme for these units in order to ensure compliance with CPP statewide as well as other long-term planning and regulatory goals. Decl. of Bryce Bird ¶ 59. If installation of SCR goes forward as required by the FIP, this harm is irreparable because it could not be redressed monetarily. *Id.*

In the final CPP rule, EPA itself acknowledged the connection between the CPP requirements and the reasonable progress requirements of the Regional Haze Rule and the potential impacts on the affected EGUs. *See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 80 Fed. Reg. 64662-01, 64923 (Oct. 23,

2015). Specifically, EPA recognized that the EGUs subject to BART requirements in the 2016-2021 timeframe “could ultimately be faced with the potential for stranded assets as a result of state 111(d) [CPP] plans” if they choose to retire to comply with the CPP. *Id.* To address this issue, EPA recognized that “states have the option of developing BART alternatives that replace control requirements that would otherwise result in stranded assets at a particular EGU” *Id.* Additionally, EPA pledged to “continue to work with states to explore options for integrating compliance requirements” to mitigate this issue. *Id.* Therefore, EPA must take into account this regulatory complexity and the resulting harm and stay the RH FIP in order to integrate compliance requirements of the CPP and RHR and avoid or at least significantly mitigate the possibility of stranded assets.

Finally, the installation and operation of SCR at Hunter and Huntington will involve a lengthy permitting process. Decl. of Bryce Bird ¶ 60. Due to the five-year compliance deadline under the FIP and the time necessary to obtain permits, PacifiCorp will need to apply for the permits immediately. *Id.* ¶ 61. The permitting process will involve staff review and development of draft permits, public notice and possible public hearings, and likely extensive public input requiring a detailed response to expected comments on the proposed permit changes. *Id.* ¶ 62. Groups that usually oppose coal-fired power plants are likely to comment and object to the proposed permits. *Id.* ¶ 63.

John Jenks, the engineer who will be preparing these permits, is currently working on Utah’s Serious Area PM_{2.5} SIP because he has substantial experience with the refinery operations. *Id.* ¶ 64. Mr. Jenks also has substantial expertise with the power plant permits. *Id.* ¶ 65. He was the project engineer on the most recent permitting actions for Hunter and Huntington and, therefore, would be assigned to lead the permitting effort for installation of SCR required by

the FIP. *Id.* Due to the FIP time frames, Mr. Jenks's priorities would shift from working on Serious Area PM_{2.5} SIP (a health-based standard) to permitting SCR for Hunter and Huntington (the task of improving visibility in the national parks). *Id.* ¶ 66.

As the permitting process must begin immediately in order to comply with the FIP deadline, Utah will be harmed by devoting its resources to a permitting project that may be unnecessary. Such harm is irreparable as it interferes with Utah's sovereign priorities, requiring certain unnecessary expenditures. *See Barnes*, 501 U.S. at 1304.

EPA's final rule also prevents Utah's agencies like the Utah Division of Air Quality from fulfilling its regulatory function of fashioning a regional haze program that meets statutory and regulatory requirements while balancing costs and visibility improvement in a matter appropriate for the citizens and economy of the state. The final rule imposes sovereign harm on Utah by displacing the system of cooperative federalism laid out in the CAA.

III. The Remaining Factors Strongly Favor a Stay

The third factor looks at whether a stay will "substantially injure the other parties interested in the proceeding." *Nken*, 556 U.S. at 426. The analysis of this factor likewise supports granting of the stay. There is no harm to the public when it comes to visibility in Class I areas at issue for two reasons: (1) any potential improvement in visibility (the only consideration of the regional haze program) from installation of SCR is imperceptible to human eye; and (2) Utah is meeting its reasonable progress goals, which EPA has approved in 2012.

Installation of SCR under the current FIP will not improve visibility as observed by visitors to Class I areas because even EPA's modeled improvement is imperceptible to the human eye. EPA's modeling shows that its FIP results in SCR-related visibility improvement of less than 1 dv down to 0.02 dv when "most people can detect a change in visibility at one dv." Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval

and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze, 81 Fed. Reg. 2004, 2009 (Jan 14, 2016) (proposed rule). In its recent proposed rule Protection of Visibility: Amendments to Requirements for State Plans, EPA also recognizes significant differences in visibility improvements between the eastern and western states due to natural events and geography. *See* 81 Fed. Reg. 26942-01, 26946. EPA acknowledges that the considerable visibility improvements (4 to 7 dv) occurred only in eastern Class I areas on the 20 percent haziest days. *See id.* Whereas some western Class I area experienced either less improvement (1 to 4 dv) or reductions in emissions from “man-made sources have been overwhelmed by impacts from wildfire and/or dust events.” *Id.* “There are also some western areas where visibility has changed only by a slight amount.” *Id.* Therefore, EPA’s own evaluation demonstrates that the emission controls are less effective in western states when compared to eastern states.

Further, haze conditions within the state are steadily improving ahead of the schedule because Utah is meeting and exceeding its reasonable progress goals. In 2012, EPA approved Utah’s “reasonable progress” determination for its RH SIP in its entirety. *See* Approval, Disapproval and Promulgation of State Implementation Plans; State of Utah; Regional Haze Rule Requirements for Mandatory Class I Areas Under 40 CFR 51.309, 77 Fed. Reg. 74355-02, 74367-68 (Dec. 14, 2012). EPA found that “the State met all reasonable progress requirements for the Class I areas,” and the controls in Utah’s 2008 RH SIP, including BART controls, would result in “a significant decrease in stationary source NO_x and SO₂ emissions.” *Id.* As further proof of the accuracy of this determination, Utah is not only meeting but also exceeding its reasonable progress goals. On May 18, 2015, Utah submitted its Reasonable Progress report to

EPA, demonstrating reasonable progress towards the established goals as required by law. *See* Progress Report for Utah’s State Implementation Plan for Regional Haze (Progress Report 2015) at F-11, Table 2.1 (May 18, 2015). The report showed that the installation of the controls on Huntington Unit 1 in 2010 and Huntington Unit 2 in 2006 decreased annual emissions of SO₂ by 15,802 tons and NO_x by 5,529 tons between 2002 (for Unit 1)/2003 (for Unit 2) and 2014. *See* Progress Report 2015 at F-13. These decreases offset some of the increases seen during the 2005-2009 progress period due to large fire events in July and August of 2009 that increased particulate organic mass in Bryce Canyon and Capitol Reef National Parks. *See id.* at F-10. Table 2.1 shows that during 2005-2009 progress period, Bryce Canyon and Capitol Reef did not show visibility improvement on the 20% most impaired days. *See id.* at F-11. However, both of these areas showed improvement during the 2011-2013 period above the 2018 preliminary reasonable progress case. *See id.*

In its Progress Report 2015, Utah also “determined that the current implementation plan elements and strategies are sufficient to meet all established reasonable progress goals” *Id.* at F-165. This current implementation plan did not include EPA’s FIP SCR installation requirement; and such requirement would be unnecessary because Utah is meeting and exceeding the reasonable goals in the Class I areas in the state.

The remaining factor looks at “where the public interest lies.” *Nken*, 556 U.S. at 426. In this case, the public interest strongly favors granting the stay. There is a broad public interest in maintaining the CAA’s system of “cooperative federalism.” *Dominion Transmission*, 723 F.3d at 240. Under this system, state regulators, who have better knowledge of the local issues, economy, and conditions, can design state implementation plans that both meet federal statutory and regulatory requirements and balance costs with visibility improvements. State citizens

certainly have an interest in their agencies being able to enact policies that meet the needs of the state's population and economy and strike the appropriate balance between competing needs.

Moreover, the public has an interest in lower electricity rates, especially when compared with the imperceptible visibility improvement that installation of SCR may achieve at a \$700 million cost.

CONCLUSION

For the foregoing reasons, EPA should grant Utah's request to stay a portion of the final rule disapproving NO_x BART Alternative and promulgating FIP and toll the effective date of the rule.

Respectfully submitted this 1 day of September 2016.

Sean D. Reyes
Utah Attorney General



Christian C. Stephens
Marina V. Thomas
Craig W. Anderson
Assistant Attorney Generals
Utah Attorney General's Office
Environment Division
195 North 1950 West
P.O. Box 140873
Salt Lake City, UT 84114-0873
cstephens@utah.gov
marinathomas@utah.gov
canderson@utah.gov

***Counsel for State of Utah, on behalf of
the Department of Environmental Quality,
Division of Air Quality***

ENVIRONMENTAL PROTECTION AGENCY

Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze; Final Rule

81 Fed. Reg. 43894-01 (July 5, 2016), EPA-R08-OAR-2015-0463; FRL-9947-42-Region 8

**DECLARATION OF BRYCE BIRD, UTAH DIVISION OF AIR QUALITY DIRECTOR,
UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY**

1. I, Bryce Bird, have personal knowledge of the facts stated in this declaration. I am competent to testify due to my experience and involvement in the matters explained in this declaration.
2. I am the Director of the Utah Division of Air Quality at the Utah Department of Environmental Quality (UDEQ). As a Director, I am responsible for the daily operations of the Division of Air Quality, including management of the division's employees, overseeing the regional haze State Implementation Plan (RH SIP) development, ensuring compliance with federal air pollution laws, and enforcing rules through permitting of air pollution sources.
3. I also have the authority to exercise any powers listed in Utah Code, Section 19-2-107.
4. I have held the title of the Division Director of the Utah Division of Air Quality at the UDEQ for five years. Prior to being appointed as the Division Director, I have been the Planning Branch Manager for four years.
5. I am providing this declaration in support of the State of Utah's Application for Partial Administrative Stay of the final rule issued by the U.S. Environmental Protection Agency (EPA) on July 5, 2016, partially approving and partially disapproving Utah's RH SIP

submissions for PM₁₀ Best Available Retrofit Technology (BART) and nitrogen oxide (NO_x) BART Alternative.¹

6. This declaration is based on my professional judgment, knowledge, experience, and expertise. I also supervise and receive regular briefings from members of my staff, who develop and revise state implementation plans, participate in the regional haze interstate programs, comment on EPA's proposed rules, develop and implement Utah's compliance with the Clean Power Plan, and prepare and issue permits to air pollution sources.
7. I have also reviewed EPA's proposed rule regarding Utah's BART submission for PM₁₀ and Utah's BART Alternative submission for NO_x, EPA's final rule disapproving Utah's BART Alternative for NO_x and imposing Federal Implementation Plan (FIP), and Utah's RH SIP submission subject to the rule. I understand the impacts of the regional haze FIP on UDEQ.

Utah RH SIP Process for NO_x

8. UDEQ has worked on the development of Utah's RH SIP since 1997. Utah was a participant in the Grand Canyon Visibility Transport Commission (GCVTC) and the Western Regional Air Partnership (WRAP), a follow-on organization to the GCVTC. The GCVTC evaluated haze at Class I Areas on the Colorado Plateau, and determined that

¹ See Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze, 81 Fed. Reg. 43894-01 (July 5, 2016).

sulfur dioxide (SO₂) had the most significant impact on visibility. Consequently, GCVTC recommended that SO₂ should be the focus of the stationary source reductions on the Colorado Plateau. This recommendation was the basis of Utah's original Regional Haze SIP.

9. On December 12, 2003, Utah prepared and submitted a Regional Haze State Implementation Plan (2003 RH SIP) to achieve natural visibility in national parks and other similarly-protected areas within its borders as required by the Clean Air Act (CAA) and EPA regulations.
10. As sulfates were one of the primary pollutants of concern emitted by stationary sources in the Colorado Plateau, the 2003 RH SIP was heavily weighted to achieve SO₂ reductions.
11. While Utah's RH SIP was focused on achieving SO₂ reductions from stationary sources, substantial reductions in NO_x were also projected to occur from stationary sources as well as mobile and non-road sources. Statewide NO_x emissions were expected to decline by 36% from 270,000 tons per year (tpy) to 172,000 tpy during the period of 1996 to 2018.
12. In June of 2008, the Utah Air Quality Board (Board)—Utah's air pollution rulemaking body—proposed a revision to the 2003 RH SIP. The revision was necessary to address BART requirements for two other pollutants—NO_x and PM—and update the projection of visibility improvement based on the new requirements for NO_x and PM.
13. By that time, substantial SO₂ reductions had been achieved in the Colorado Plateau as a result of the measures implemented through Utah's 2003 RH SIP, notwithstanding EPA's failure to take the required final action.

14. In June of 2008, Utah informally submitted its proposed revised RH SIP (2008 RH SIP) to EPA, which included BART determinations and limits for NO_x and PM, for EPA's comment and approval.
15. In July of 2008, EPA commented on the 2008 RH SIP during the state rulemaking process, criticizing Utah's BART analysis and enforceability of the proposed limits.
16. On September 3, 2008, the Board finalized the 2008 RH SIP and responded in detail to EPA's comments regarding the BART analysis. As required by Section 7410 of the CAA, once approved by the Board, the 2008 RH SIP became legally binding on PacifiCorp as a matter of state law.
17. On September 9, 2008, Utah formally submitted its 2008 RH SIP to EPA. Among other things, 2008 RH SIP required installation of NO_x and PM BART emissions controls on four electrical generating units at the Huntington and Hunter power plants that are owned or operated by PacifiCorp. PacifiCorp installed these controls in compliance with the RH SIP.
18. EPA did not reach a final determination on Utah's 2008 RH SIP by March 9, 2010 (statutory deadline).
19. On December 20, 2010, Utah submitted a supplement to the 2008 RH SIP to further clarify Utah's BART determinations.
20. On January 5, 2011, the Board proposed another revision to the 2008 RH SIP (2011 RH SIP Revision). The substantive changes in that Revision affected only the SO₂ milestones

section of the plan and therefore did not constitute a new RH SIP submission with respect to the BART requirements for NO_x and PM.

21. On February 24, 2011, EPA submitted comments in the state rulemaking process on the proposed 2011 RH SIP Revisions and the 2008 RH SIP.
22. On May 16, 2012, EPA published a notice of proposed rulemaking in the Federal Register, proposing to partially approve and partially disapprove Utah's 2011 RH SIP Revision and the 2008 RH SIP.
23. This action was delayed almost three years. EPA acted only after WildEarth Guardians sued the agency for failure to perform a non-discretionary duty and obtained a consent decree that imposed deadlines on EPA to act on Utah's SIP submissions.²
24. On July 16, 2012, Utah submitted comments to EPA on the proposed disapproval, taking issue with a number of EPA's assertions regarding Utah's PM and NO_x BART analyses.
25. On December 14, 2012, nearly three years after the statutory deadline of March 9, 2010, EPA issued its final rule partially approving and partially disapproving Utah's 2011 RH SIP Revision and 2008 RH SIP. EPA amended this rule on January 22, 2013 to add some non-substantive language. In the final rule, EPA disapproved the NO_x and PM BART provisions of the 2008 RH SIP.

² See *WildEarth Guardians v. Jackson*, No. 10-cv-01218-REB-BNB (D. Colo. Oct. 28, 2010).

26. However, by the time EPA disapproved Utah's RH SIP in December 2012, the plan had already become legally binding state law requiring PacifiCorp to install the PM and NO_x BART controls on its units subject to the 2008 RH SIP.
27. Through proactive planning during 2006 to 2014, PacifiCorp has installed new pollution controls on Hunter Units 1 and 2 in 2014 and 2011 respectively, and on Huntington Units 1 and 2 in 2010 and 2006 respectively.
28. Although EPA partially disapproved the Utah 2011 RH SIP Revision and 2008 RH SIP, EPA did not promulgate a regional haze *federal* implementation plan (RH FIP). Instead, EPA allowed Utah to re-evaluate and resubmit its PM and NO_x BART determinations.
29. Utah has worked diligently since 2012 to submit a revised RH SIP to EPA, leveraging its more than ten-year-long effort to develop a RH SIP that would meet EPA's view of the BART requirements.
30. Utah proposed an initial RH SIP revision on October 1, 2014. Utah took public comment on this proposal and held a public hearing. After receiving public comment, Utah decided to modify and re-propose its RH SIP revision.
31. EPA's Regional Haze Rule provides two pathways to address BART: (1) a case-by-case determination under the provisions of 40 C.F.R. §51.308(e)(1) or (2) an alternative to BART under the provisions of 40 C.F.R. §51.308(e)(2).
32. The October 2014 proposal contained a detailed 5-factor analysis for a BART determination under the case-by-case provisions established in 40 C.F.R. §51.308(e)(1). EPA's disapproval of the BART provisions for NO_x and PM in 2012 was primarily due

to the alleged lack of a 5-factor analysis that met EPA's criteria. The 5-factor analysis in the October 2014 proposal relied on visibility modeling completed by PacifiCorp in 2012. The proposal reaffirmed the 2008 BART determinations for NO_x and PM. Post-combustion controls for NO_x were evaluated and determined to be cost-prohibitive. One factor considered as part of Utah's BART analysis was the no-cost co-benefit of visibility improvement expected to occur due to the planned closure of PacifiCorp's Carbon Plant in 2015. To ensure the ongoing visibility benefit, the proposed October 2014 RH SIP revision made the closure enforceable. The proposal also determined that the PM controls required in the 2008 BART determinations were the most stringent technology available and therefore met the criteria for BART.

33. In November 2014, Utah completed additional modeling that included emission reductions from three electric generating units that were not subject-to-BART: PacifiCorp Carbon Unit 1, PacifiCorp Carbon Unit 2, and PacifiCorp Hunter Unit 3. These modeling results were made available for public review, and the public comment period was extended to allow adequate review.
34. After reviewing the modeling results as well as public comments received on the October 2014 RH SIP revision proposal, Utah prepared a new proposal under 40 C.F.R. § 51.308(e)(2) that provided for an alternative to BART for NO_x. Utah chose to demonstrate that the alternative measure achieves greater reasonable progress than would be achieved through BART by using a "weight of evidence" analysis under Section 308.

35. To support a “weight of evidence” analysis under Section 308, Utah collected and evaluated information from nine different metrics: (1) annual emissions of visibility-impairing pollutants; (2) improvement in the number of days with significant visibility impairment; (3) 98th percentile modeling impact in deciviews (dv); (4) annual average impact (dv); (5) 90th percentile impact modeling impact (dv); (6) timing of emissions reductions; (7) results from IMPROVE monitoring data; (8) energy and non-air quality benefits; and (9) costs.
36. Utah evaluated a number of different metrics to compare the BART benchmark (the most stringent control technology—low-NO_x burners with overfire air (LNB/SOFA) in conjunction with selective catalytic reduction (SCR)) to the BART Alternative. The emission reductions under the Alternative included reductions of SO₂ and PM in addition to NO_x and the visibility improvement could occur during different episodes and during different times of the year under the two scenarios.
37. The only metric that did not support the BART Alternative was the 98th percentile modeling impact—the metric demonstrating visibility impacts on one of the most impaired days. Utah explained that the most stringent NO_x scenario (BART benchmark) barely achieved greater modeled visibility improvement than the Alternative on these high nitrate days because high nitrate values occur primarily in the winter months.
38. Utah also took into consideration that there is greater uncertainty regarding the effect of NO_x reductions on wintertime nitrate values because past NO_x emission reductions have not resulted in corresponding reductions in monitored nitrate values during the winter

months. Utah has greater confidence in the visibility improvement due to reductions of SO₂ because past SO₂ reductions have resulted in corresponding reductions in monitored sulfate values throughout the year.

39. Utah's BART Alternative compared the NO_x, SO₂, and PM emission reductions achieved across all three PacifiCorp Plants (Hunter, Huntington, and Carbon) with the emission reductions that would be achieved through the installation of the most stringent control technology for NO_x—LNB/SOFA with SCR. The analysis showed that combined emissions of NO_x, SO₂, and PM would be 2,856 tons per year lower under the alternative scenario.
40. The Alternative also showed that it would improve visibility on more days throughout the year, would achieve a greater average visibility improvement, and would achieve greater reductions in SO₂—the most significant anthropogenic pollutant during the high visitation months of March through November.
41. The visibility improvement that would occur under the most stringent control technology for NO_x during the winter months was more uncertain. The fact that ammonium nitrate levels were decreasing during most of the year, but were increasing during the winter, was the best indication that the increase in ammonium nitrate was not due to changes in emissions because the emission changes are not seasonal.
42. Besides, the significant NO_x reductions that have already occurred due to controls installed pursuant to Utah's 2008 RH SIP and the related BART determinations have not reduced ammonium nitrate values during the winter months when ammonium nitrate

values are the highest, possibly due to low levels of ammonia that limit the formation of ammonium nitrate.

43. The timing of the reductions also supported the BART Alternative, demonstrating that the early emissions reductions commenced in 2006 and would provide “a corresponding early and on-going visibility improvement.”³
44. Utah considered cost as one of the factors also weighing in favor of the BART Alternative. Utah found that the Alternative achieves better visibility improvements than the BART benchmark at a significantly lower cost, which presents a classic “win/win” scenario for all the affected parties.
45. The BART Alternative also avoided a \$2 million energy penalty and created environmental benefits from the closure of the Carbon plant. Specifically, the closure reduced water usage, eliminated wastewater discharge, eliminated production of solid wastes in the form of fly ash, reduced fugitive dust, eliminated all emissions, fuel use, and other maintenance, testing, and operational processes for emergency generators, fire pumps, and ancillary equipment at the Carbon plant.
46. Utah has reviewed and prepared a detailed Technical Support Document consisting of six chapters and over 2,000 pages to support its PM₁₀ BART and NO_x BART Alternative determinations. Besides the 36-page staff review summarizing these determinations, the Technical Support Document includes PacifiCorp’s BART analysis for all units, Utah’s

³ Staff Review 2008 PM BART Determination and Recommended Alternative to BART for NO_x, Utah Division of Air Quality at 1-13 (May 13, 2015).

five-factor BART analysis update, DAQ's engineering review, emissions inventory, IMPROVE monitoring data, and visibility modeling.

47. Utah developed the BART Alternative for NO_x through close collaboration and consultation with EPA. Utah and EPA worked together as regulatory partners to ensure that Utah's BART Alternative was approvable.
48. EPA submitted comments on Utah's BART Alternative during the state rulemaking public comment period that did not point to any substantive flaws in Utah's submission and did not direct Utah to weigh the evidence differently under the "weight of evidence" analysis. The only modifications EPA requested were minor clarifications and revisions.
49. EPA only raised one substantive issue during the collaboration process—proper accounting for the SO₂ emissions reductions due to closure of the Carbon plant and clarification of emission inventory requirements for tracking compliance with the SO₂ milestone.
50. Utah submitted its revised RH SIP for NO_x and PM to EPA on June 4, 2015.
51. On October 20, 2015, Utah submitted a SO₂ commitment SIP to EPA pledging to revise SIP Section XX.D.3.c and State rule in Utah Administrative Code R307-150 by March 2018 to address these concerns. EPA did not take action on this SIP in its final rule, essentially causing Utah's efforts to draft and submit the SO₂ commitment SIP to become a wasted effort.

Requirements of the Clean Power Plan and the EPA's RH FIP

52. Absent a stay on the final rule disapproving BART Alternative and imposing the FIP, Utah will experience significant regulatory complications in preparing Utah's plan to comply with the Clean Power Plan (CPP) rule.
53. Even though the U.S. Supreme Court has currently stayed the CPP rule, the D.C. Circuit Court of Appeals is handling the CPP legal challenge on an expedited basis. The full court (en banc) will hear arguments on the merits on September 27, 2016 with the decision expected in early 2017. A petition for writ of certiorari to the U.S. Supreme Court is highly likely and, if granted, the final decision on CPP may issue as early as the beginning of 2018.
54. In the event the courts uphold CPP, Utah would need to immediately begin preparing its state plan even if EPA or the courts extend compliance deadlines. CPP imposes significant obligations on the states beyond what the states have experienced under the CAA or any other federal rule.
55. Preparing a state plan for CPP compliance will be a complicated task, which will take Utah some time to complete. Among other things, CPP compliance will involve interstate collaboration, interagency analyses, working with the regulated community, and consultation with various stakeholders to determine what is technically feasible.
56. As part of its CPP compliance plan, Utah may opt to develop a tradable emissions allowance system, where the facilities would need to begin retiring an allowance for each ton of CO₂ they emit.

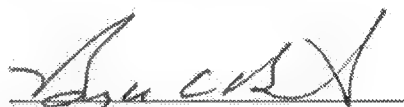
57. If CPP withstands legal challenge, Hunter and Huntington plants will be subject to the rule. Installing SCR controls required by the regional haze FIP at this time would make it more likely that these plants would have to continue to operate to recoup the costs of controls and, at the same time, continuing operation would become increasingly costly as CPP allowances become more scarce over time.
58. This is where the measures required by the CPP and the regional haze FIP imposed by EPA may be at odds. The CPP will be putting pressure on the coal-fired power plants, including Hunter and Huntington, to either close, curtail operations, or continue operating at higher costs due to the allowance retirement requirement. Whereas, the installation of SCR under FIP will necessitate continued operation of these plants at the current capacity in order to recover significant capital investment costs.
59. Taking into account a finite useful life of these units, addition of SCR could complicate Utah's regulatory scheme for these units in order to ensure compliance with CPP statewide as well as other long-term planning and regulatory goals.

SCR Permitting for Hunter and Huntington

60. The installation and operation of SCR at Hunter and Huntington will involve a lengthy permitting process.
61. Due to the five-year compliance deadline under FIP and the time necessary to obtain permits, PacifiCorp will need to apply for the permits immediately.

62. The permitting process will involve staff review and development of draft permits, public notice and possible public hearings, and likely extensive public input requiring a detailed response to expected comments on the proposed permit changes.
63. Groups that usually oppose coal-fired power plants are likely to comment and object to the proposed permits.
64. John Jenks, the engineer who will be preparing these permits, is currently working on Utah's Serious Area PM_{2.5} SIP because he has substantial experience with the refinery operations.
65. Mr. Jenks also has substantial expertise with the power plant permits. He was the project engineer on the most recent permitting actions for Hunter and Huntington; and, therefore, would be assigned to lead the permitting effort for installation of SCR required by the FIP.
66. Due to the FIP timeframes, Mr. Jenks's priorities would shift from working on Serious Area PM_{2.5} SIP (a health-based standard) to permitting SCR for Hunter and Huntington (the task of improving visibility in the national parks).
67. I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 31 day of August 2016.



Bryce Bird
Director, Utah Division of Air Quality
Utah Department of Environmental Quality



10714 South Jordan Gateway
 South Jordan, Utah 84005
 (801) 619-6500 Fax: (801) 619-6599

September 6, 2016

Via E-Mail and Certified U.S. Mail

The Honorable Gina McCarthy
 Administrator, U.S. Environmental Protection Agency
 Ariel Rios Building
 1200 Pennsylvania Avenue, N.W.
 Washington, D.C. 20460
 (McCarthy.Gina@epa.gov)

Shawn McGrath
 Region 8 Administrator
 U.S. Environmental Protection Agency
 1595 Wynkoop Street
 Denver, Colorado 80202
 (r8eisc@epa.gov)

Re: Request for Reconsideration and Request for Administrative Stay of EPA's Final Rule: "Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze; Final Rule." Docket ID No. EPA-R08-OAR-2015-0463

Dear Administrators McCarthy and McGrath:

Deseret Power Generation & Transmission Corporation ("Deseret Power") respectfully requests that the U.S. Environmental Protection Agency ("EPA" or "Agency") reconsider and grant an immediate administrative stay of the compliance deadline and toll the effective date of certain requirements in the Agency's final rule cited above. 81 Fed. Reg. 43,894 (July 5, 2016) ("Final Rule"). Deseret Power understands that PacifiCorp Energy submitted a comprehensive Petition for Reconsideration on September 2, 2016 ("PacifiCorp Petition"), and Deseret Power incorporates by reference the PacifiCorp Petition into this petition and has attached it hereto as Exhibit A. In this petition, Deseret Power specifically highlights the unique impact the EPA's Federal Implementation Plan for Regional Haze for Utah ("FIP" or "BART NOx FIP") would have on Deseret Power's operation and ability to supply power to its electricity cooperative customers.

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Deseret Power is a 25% minority interest owner of the Hunter 2 Unit in Emery County, Utah. As noted in the PacifiCorp Petition on page 2, the FIP requires the owners of the Hunter 2 plant to begin expenditures of millions of dollars to meet the FIP requirements by 2021. The FIP requires these significant capital investments based on the Agency's premise that the FIP Best Available Retrofit Technology ("BART") requirements (namely the requirement to install selective catalytic reduction ("SCR") systems at the Hunter 2 facility) will result in greater visibility improvements than the State of Utah's BART Alternative.

For reasons set forth in detail in the PacifiCorp Petition, the EPA's Final Rule is legally flawed and PacifiCorp, along with other petitioners like Deseret Power, are likely to succeed on the merits of claims challenging the legality of the Final Rule. Deseret Power does not intend to rehash those arguments in its petition, but incorporates such arguments here. Moreover, a stay should be granted because both PacifiCorp and Deseret Power will be irreparably harmed by the imposition of the FIP¹, the public interests favor a stay, and no significant harm from a stay will result for either EPA or the public. In its petition, Deseret Power will supplement PacifiCorp's already sound arguments supporting both a stay and EPA reconsideration with additional arguments specific to Deseret Power and its unique status as an electric cooperative.

Deseret Power's supplemental arguments are two-fold. First, with respect to the request for reconsideration, Deseret Power agrees with PacifiCorp that the Regional Haze Rule, 40 C.F.R. § 51.308(d)(1)(i)(B), requires implementation of BART controls before the compliance deadline of the first reasonable progress period, which is July 31, 2018—but the Final Rule calls for implementation of BART controls by 2021—a departure from the clear meaning of the rule. This was the specific holding of the 5th Circuit in *Texas v. EPA*, No. 16-60118, 2016 WL 3878180 (5th Cir. July 15, 2016), a decision released after the Final Rule. This new information plus the unique nature of Deseret Power's inability to raise capital for SCR installation by 2021 or by 2018 makes EPA's FIP untenable. Accordingly, EPA should reconsider the Final Rule in light of this new Fifth Circuit ruling.

Second, with respect to the request for stay, Deseret Power is not similarly able to pass along the costs of compliance with the BART NOx FIP (i.e. installation of SCR) to its customers like PacifiCorp is able to do. This makes the irreparable injury requirement for imposition of a stay particularly strong in Deseret Power's favor.

Like PacifiCorp, Deseret Power requests that EPA grant an immediate stay of the BART NOx FIP and to reconsider its rejection of the Utah RH SIP and BART Alternative.

¹ As noted in PacifiCorp's Petition, Deseret Power and Utah Associated Municipal Power Systems, and Utah Municipal Power Agency are co-owners of, and receive a portion of, the electrical output from certain affected units at the Hunter 2 plant. All of these entities are substantially impacted by the Final Rule.

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I. The EPA Should Reconsider the Final Rule Because New Law Rejecting Similar EPA Action Has Been Released Since Promulgation of the Final Rule.

The CAA requires the Administrator of EPA to convene a reconsideration proceeding if “it was impracticable to raise [an] objection” to a final EPA action within the time for public comment or if “the grounds for such objection arose after the period for public comment (but within the time specified for judicial review)” and such objection is “of central relevance to the outcome of the rule.” 42 U.S.C. § 7607(d)(7)(B). The CAA further provides that “documents which become available after the proposed rule has been published and which the Administrator deems are of central relevance to the rulemaking shall be placed in the docket as soon as possible after their availability.” 42 U.S.C. § 7607(d)(4)(B)(i).

On July 15, 2016, the Fifth Circuit rejected EPA’s attempt to impose BART controls with an implementation time frame longer than the 10-year reasonable progress planning window, which ends on July 31, 2018. *Texas v. EPA*, No. 16-60118, 2016 WL 3878180, at *34 (5th Cir. July 15, 2016). This decision was released just ten days after the Agency released the Final Rule in this case. The Fifth Circuit decided that where EPA imposes a FIP,

it stands in the position of the state with all the same requirements and powers the state had in initially drafting its SIP. Here, the state implementation plans under review only cover the period up to 2018. Yet EPA’s federal implementation plan requires power plants in Texas to meet reasonable progress goals by installing scrubbers in 2019 and 2021. Petitioners persuasively argue that this exceeds the power granted by the Regional Haze Rule.

Like the state of Texas, the State of Utah submitted its SIP with the BART Alternative, which could be completed within the 10-year reasonable progress window ending in 2018 and demonstrated that the BART Alternative would achieve all reasonable progress goals by that date. *See* Progress Report for Utah’s State Implementation Plan for Regional Haze at F-11, Table 2.1 (May 18, 2015). The EPA is, therefore, only authorized by the Regional Haze Implementation Rule to stand in the shoes of the state and impose a BART control strategy that can be completed within the compliance window—by 2018. *See* 40 C.F.R. § 51.308(d)(1)(i)(B). And yet, EPA, in the Final Rule, imposes BART controls to be implemented by 2021 in clear contravention of the rule and contrary to the Fifth Circuit’s holding in *Texas v. EPA*. Final Rule at 43,924. In light of this recent circuit court decision, EPA should reconsider the Final Rule because a major premise of the Final Rule was specifically rejected by the Fifth Circuit. Such a precedent is certainly of “central relevance” to the outcome of the rule.

EPA’s violation of its own rule is particularly troubling for Deseret Power. Due to its unique structure and troubled debt workout agreements, which govern Deseret Power’s ability to make capital investments, Deseret Power may be precluded from issuing new debt instruments to raise the capital necessary to install SCR at Hunter 2. Deseret Power is uniquely challenged to

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raise the necessary capital, regardless whether the SCR were to be installed either within the 2018 reasonable progress window or the improperly imposed 2021 deadline under the FIP. EPA's inability to follow its own rule creates a scenario where controls were selected by EPA without permitting the State of Utah to first evaluate, analyze, and take action to determine the necessary constraints of time, costs of compliance during the next 10 year reasonable progress window, or the ability of each impacted utility for implementation of EPA's top-down mandate. Reconsideration is warranted here.

II. Under the Ruling of *Texas v. EPA*, and EPA's own Regional Haze Guidance, EPA Must Defer to and Refrain From Interfering In the State of Utah's Congressionally Delegated Prerogative to First Consider and Develop Reasonable Progress Requirements and Corresponding BART Determinations for the Second 10 Year Reasonable Progress Period.

As noted in the Court's Decision in *Texas v. EPA*, "When it promulgated the Regional Haze Rule, EPA elected to bind states to a ten-year revision period. 40 C.F.R. § 51.308(f). When EPA steps into the shoes of a state to develop a federal implementation plan, that period is binding on EPA as it was on the state. *See* 77 Fed. Reg. at 40,164 ("At the point EPA becomes obligated to promulgate a FIP, EPA steps into the State's shoes, and must meet the same requirements. . . .")." *Id.* p.7n.7

The Regional Haze Rule requires states to "consider . . . the emission reduction measures needed to achieve [the reasonable progress goal] *for the period covered by the implementation plan*," 40 C.F.R. § 51.308(d)(1)(i)(B), (d)(3) (emphasis added). The State of Utah has not yet been given the opportunity, nor has it taken the necessary steps to collect, analyze, propose, and gather comment on the four defined factors required to be considered under the Clean Air Act for the next 10 year period.

In adopting its FIP, EPA "jumps over" the statutory, procedural, and constitutional due process afforded not only to the State of Utah, but to Deseret Power, as one of the utilities that will be impacted directly by the plan(s), costs, and objectives to be established for the next 10-year Reasonable Progress Period. Congress unequivocally delegated to the State, not to EPA, the prerogative and the responsibility to first determine and establish those objectives that will be pursued as part of a Regional Haze plan for the following period.

Instead, EPA's FIP requires Deseret Power, as co-owner of the Hunter 2 Unit, to bear costs of installing expensive control technology on its unit, without any benefit whatsoever of a State-developed process. The State of Utah has neither refused nor failed to undertake and complete the process toward developing such a plan for the next 10 year period.² The EPA FIP

² EPA has proposed to revise the Regional Haze Guidance to remove language tying controls to the "period covered by the implementation plan," but its proposed revision would do nothing to alter the State's prerogative to first consider, for whatever period is under consideration, the

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is, in this regard, completely devoid of considerations such as the contribution of other potential source(s) of pollution to be taken into account in achieving the Reasonable Progress goals for the next 10 year period (or whatever the period may be which will follow the initial 10 year Period ended 2018). Likewise, EPA's FIP deprives Deseret Power its right to participate in the State of Utah's process of considering possible alternative compliance approaches under a "holistic," and "alternative" scheme, as that right is afforded to the State under the Clean Air Act. EPA must defer to Utah and allow the State, not EPA, to first establish goals to be achieved during the next Reasonable progress period. Those objectives, as established by the State, not EPA, must be honored so long as the State establishes goals that comply with the Act. *See* 42 U.S.C. § 7410(k)(3) (EPA "shall approve" a state implementation plan that satisfies the requirements of the Act); *Luminant*, 675 F.3d at 921.

EPA's complete lack of deference to the state in forcing measures designed to address air visibility conditions and effects during the next 10 year reasonable progress period "inverts the agency's "ministerial function" in this system of "cooperative federalism." *Texas v. EPA*, p.31, quoting *Luminant*, 675 F.3d at 921.

III. Deseret Power Will Suffer Unique and Immediate Irreparable Harm if the Final Rule is Not Stayed.

EPA should stay implementation of the BART NO_x FIP requirements because there are numerous legal and technical flaws in the Final Rule. Because the FIP is dependent upon EPA's decision to reject the BART Alternative, EPA should stay the entire Final Rule.

The legal standard for an administrative stay is even broader than the standard for a judicial stay. The Administrative Procedures Act grants EPA authority to stay the BART NO_x FIP's requirements when "justice so requires . . . pending judicial review." 5 U.S.C. § 705. Despite this broad authority to grant stays, agencies often apply the more specific criteria governing preliminary injunction requests when determining whether a stay should be granted. *See Affinity Healthcare Servs. v. Sebelius*, 720 F. Supp. 2d 12, 15 (D.D.C. 2010) ("Motions to stay agency action pursuant to [5 U.S.C. § 705] are reviewed under the same standards used to evaluate requests for interim injunctive relief."). "A plaintiff seeking a preliminary injunction must establish that he is likely to succeed on the merits, that he is likely to suffer irreparable harm in the absence of preliminary relief, that the balance of equities tips in his favor, and that an injunction is in the public interest." *Winter v. NRDC*, 555 U.S. 7, 20 (2008); *see also RoDa Drilling Co. v. Siegal*, 552 F.3d 1203, 1208 (10th Cir. 2009) (same).

objectives to be met and the factors to be weighed in developing an overall plan for achieving those objectives. EPA simply has not afforded the state of Utah its Congressionally mandated right to first undertake this consideration; EPA instead simply usurps the State's role entirely with respect to any period following the initial 10 year Reasonable Progress Period established at the time Utah promulgated its proposed SIP.

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PacifiCorp has provided, in the PacifiCorp Petition, an extensive analysis of why petitioners, like PacifiCorp and Deseret Power, are likely to succeed on the merits of claims that the Final Rule is illegal and should be rejected. These arguments will not be re-asserted here, but are incorporated by reference.

PacifiCorp has identified for EPA the enormous, unnecessary, and unreasonable impacts that compliance with the FIP mandate would pass through in the form of increased electricity rates to ratepayers. Those rates and ratepayers also include rural residents and small businesses located in areas of the State and in tribal areas where the rural electric cooperatives which Deseret Power serves provide electricity.

Deseret Power, however, will suffer unique irreparable harm that is different and in addition to the ill effects that PacifiCorp and others will feel. EPA should evaluate these impacts specific to Deseret Power as this level of irreparable harm is easily sufficient alone to warrant the grant of an administrative stay.

III.A. The FIP Requirement for Hunter Unit 2 Threatens Deseret Power's Financial Condition and Poses an Intolerable Risk of Forfeiture of Deseret Power's Rights Under the Terms of a Debt Forbearance Arrangement With Its Creditors.

Since the late 1990's, Deseret Power has operated under the terms of a long-term debt forbearance arrangement with its creditors. The forbearance arrangement was necessitated by market forces in the late 1980's and early 1990's which made it impossible for Deseret Power to recover fully its costs of constructing the utility plant and equipment it operates. One major source of this financial distress was the long-term indebtedness secured by Deseret Power's interest in the Hunter 2 Unit – debt that Deseret Power has not been able to service or pay. With the prevailing conditions in place at that time, Deseret Power found itself unable to make payment under the debt as payments fell as due under the loan(s) secured by Deseret Power's ownership interest in Hunter 2.

Deseret Power's creditors have agreed to forbear from collecting the full amount of unpaid indebtedness for the Hunter 2 Unit mortgage, on the condition that Deseret Power fully comply with certain specified terms of the long-term debt restructuring and forbearance agreement. One key element of that agreement requires that Deseret Power covenant not to incur any new long-term indebtedness while the existing creditors continue to forbear from exercising remedies to collect on the full unpaid Hunter 2 and other delinquent debt owed to them.

Should the FIP be allowed to remain in place and on the current time schedule, Deseret Power's share of capital costs for the required additions at Hunter 2 would surpass its available cash reserves. As currently projected, Deseret Power would not be able to pay for the capital improvement of SCR at Hunter 2 prior to 2026. After 2026, a significant portion of the pre-existing debt is scheduled to be forgiven – subject to Deseret Power's adherence to the particular

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terms spelled out in the forbearance arrangement. In short, Deseret Power could not pay for its portion of SCR at Hunter 2 as set forth in the FIP without seeking new, substantial long term debt.

Incurring such an amount of new debt prior to 2026, without a new consensual arrangement with its existing creditors, could virtually ensure a violation of the forbearance terms. Should such a violation result in the waiver or termination of creditors' forbearance obligations under the agreement, Deseret Power would find itself hopelessly unable to make payment on nearly \$2 Billion in pre-existing debt – far in excess of its ability to satisfy.³ The obvious result would almost certainly lead to a bankruptcy of Deseret Power. A bankruptcy filing is one of the most severe forms of irreparable harm one can suffer and clearly satisfies this element of imposing a stay. *See, e.g., Doran v. Salem Inn, Inc.*, 422 U.S. 922, 932 (1975) (Where a party “would suffer a substantial loss of business and perhaps even bankruptcy...[c]ertainly the latter type of injury sufficiently meets the standards for granting interim relief, for otherwise a favorable final judgment might well be useless.”). The threat of such a bankruptcy is real for Deseret Power, should the requirement of the FIP be allowed to remain in place.

Alternatively, Deseret Power could attempt, with only uncertain assurance of success, to seek a voluntary accommodation from its creditors effectively equating to a major restructuring of all of Deseret Power's long term indebtedness. In any such arrangement, Deseret Power would expect to be required to make significant, harsh, and irreparable concessions to the creditors.

Deseret Power could not conceivably raise its rates to its tariff customers (those customers served under ordinary residential/commercial rate tariffs by Deseret Power's distribution cooperative members) in time, or in an amount sufficient to pay off the full amount of debt which would come due and payable should the existing creditors no longer be required to forbear from collecting unpaid debt.⁴

³ Deseret Power has available a sizeable sum of payment credit that could be applied to satisfy scheduled restructured payments under the long term forbearance; although the amount of such credit could be applied to scheduled restructured debt payment, it is already projected that Deseret Power will likely need the full amount of available payment credit to permit its compliance with operational demands including costs of compliance with the anticipated Clean Power Plan for controlling carbon dioxide emissions from Deseret Power's existing generating sources.

⁴ For illustrative purposes, the entire remaining principal payments that will be paid by Deseret Power under the heavily reduced minimum payment requirements of the forbearance arrangement will not likely exceed approximately \$182 million, plus interest recognized on such payments. By comparison, the unpaid outstanding balance of delinquent indebtedness that would become due and payable, should a default by Deseret Power result in terminating

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III.B. Absent an Immediate Stay of the FIP, Deseret Power Risks Immediate Creditor Remedies Associated With a Potential Projected Future Cash Shortfall.

Even if Deseret Power could avoid an eventual bankruptcy triggered by the sizeable capital costs of SCR at Hunter 2 under the FIP, the terms of the existing forbearance will result in immediate restrictions on Deseret Power's rates and operations, unless the FIP is stayed.

Deseret Power is a cooperative that does not have any source of equity investment capital except through rates and charges assessed to its members for electricity that it sells and delivers. Contrary to EPA's simplistic assertion in the Final Rule, Deseret Power simply does not have the ability to raise customer rates to generate capital for financing the sizeable cost to install SCR at Hunter 2.

The SCR for Hunter 2 will cost approximately \$145 million, and of that, Desert Power will be responsible for contributing approximately \$40 million. Not only is Deseret Power unable to generate capital costs by increasing rates of its customers, it is limited in its ability to incur new indebtedness of such a magnitude, at least while the existing forbearance arrangement remains.⁵

Even short of an eventual threatened bankruptcy filing, the very existence of the FIP, without immediate administrative or judicial stay, brings with it irreparable damage for Deseret Power. Under the forbearance arrangement, prior to November 15 of each year, Deseret Power must provide revised forward projections to its creditors of anticipated cash flows (or deficits) through approximately 2025. This revised cash flow projection, which Deseret Power will be

creditor's forbearance obligation, could surpass \$2 Billion by the time the FIP would require installation of equipment at Hunter 2. Annual interest accrual alone on such an amount would nearly equal the total gross revenue generated by Deseret Power in a given year, without deducting any costs (labor, fuel, materials, etc.) associated with generating such revenue. Simply put, such an amount would be legally, practically, and economically impossible to recover through Deseret Power's electric rates and charges to its members and/or other customers.

⁵ Deseret Power could, if necessary, undertake new additional indebtedness for large projects such as an installation of SCR at Hunter 2, if the installation were scheduled beyond early 2026—the current anticipated date for completion of a mandatory series of minimum debt payments under the terms of the forbearance. Provided nothing occurs to delay or prevent completing these payments and otherwise complying with debt covenants under the agreement, Deseret Power would once again find itself free to raise new funding for large capital improvements through new debt issued after the satisfaction of those requirements.

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required to submit later this year, would result in immediate restrictions on Deseret Power's use of available cash flow, should it reflect a future projected cash flow deficit of sufficient magnitude that calls into question its ability to make scheduled minimum debt service payments consistent with the terms of the agreement.

Among the remedies Deseret Power's creditor will immediately acquire, upon such a projected cash flow shortfall, Deseret Power's annual operating budgets, rebate programs to its Members, capital rotation payments to member cooperatives, and other similar payments must immediately cease or be approved on a case-by-case basis by the unpaid creditors. These creditor remedies will become active *immediately* once Deseret Power delivers updated long term cash flow projections that show Deseret Power's inability to meet cash requirements through 2025 as those are projected to come due.

Deseret Power uses available "free" cash flow for a number of vital and important organizational purposes. In addition, submitting Deseret Power's operating budgets to creditor approval places Deseret Power and its elected Governing Board in an untenable, irreparable position of risking long term economic growth and planning for the utility, in order to acquiesce to the short-term, narrow focus of dissatisfied creditors.

Among the very immediate ramifications that could flow from Deseret Power delivering such a revised cash flow projection:

- Deseret Power relies on making cash rebates to its six rural electric cooperative members to equalize and stabilize rate effects among the six rural organizations. Should the creditors place these cash rebates on hold, the result will be to greatly increase all of the rates paid by these rural electric cooperatives and passed through to rates charged for electricity served to rural homes and communities. Some members in portions of Wyoming and elsewhere would see much more dramatic, unplanned, and sudden increases in rates than other areas, because the FERC-approved rebates serve to levelize and equalize rates among the Deseret Power distribution members.
- Deseret Power would be precluded from funding Energy Efficiency Improvement programs – investment programs designed to increase efficient use of electricity, thereby optimizing the amounts paid by ultimate electricity consumers.
- Deseret Power would be forced to re-evaluate labor costs and compensation levels, in order to satisfy creditor demands in seeking approval of annual operating budgets.
- Deseret Power would be precluded from making cash payments to member distribution cooperatives to rotate capital margins (cash paid in excess of operating costs) accumulated during past years. Deseret Power normally retires

accrued patronage capital credits to its members on a regular basis. Creditors would most certainly prohibit such payments, at least through 2025.

- Other major maintenance projects at Deseret Power's plants (including approval for projects at the jointly owned Hunter 2 Unit), together with capital improvement funding for the coal mining operations of Deseret Power's wholly owned subsidiary would be severely restricted or curtailed for the coming years through 2025.

Absent an administrative or judicial stay of the FIP, *even if the FIP is ultimately modified or judicially invalidated*, Deseret Power will have been damaged beginning this year. Even if the FIP is eventually modified by EPA and/or invalidated by Court action, Deseret Power will suffer the damage of the foregoing effects for as long as the ongoing consideration of the FIP continues. Under the terms of the forbearance arrangement with its creditors, much of these damages will never be recovered, even if Deseret Power, PacifiCorp, and the State of Utah ultimately prevail on the merits.

But for a stay of the FIP, Deseret Power will be put to an intolerable Hobson's choice—it will be forced to undertake one of the following three intolerable courses of action, effective immediately:

- (i) either report and project that it will need to incur additional long-term indebtedness to finance the Hunter 2 SCR installation costs (thereby likely triggering a negotiation with its existing creditor to accommodate such new additional debt); or
- (ii) begin immediately to restructure its rates for electricity sold, its operational plans and levels of dispatch for its existing generation resources, as well as expenditures to reflect an "emergency" or "survival" budget, in order to generate increased net operational cash flows sufficient to pay the costs associated with SCR installation at Hunter 2 before the end of 2021 without the need for new indebtedness; or
- (iii) project a major future cash flow deficit to accommodate the unavoidable cash outlays that would accompany SCR installation.⁶ The latter would seriously

⁶ Given the relatively short time period remaining before the 2021 compliance deadline for all BART eligible units under the FIP, attempting to devise a 5 year plan that could work around the projected cash flow shortfall from SCR installation at Hunter 2 would be painful, if it is even possible. It would require dramatic and immediate changes in Deseret Power's planned operations beginning immediately to take actions such as: dramatically reducing costs (with dramatic negative long term ramifications for the Company), raising member rates in

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threaten to trigger immediate aggressive creditor rights which in turn would bear heavy negative impacts on Deseret Power's ability to continue to conduct its business affairs in the manner it currently does.

Even should Deseret Power prevail in its petition for relief, it will begin immediately to incur irreparable harm unless the FIP is stayed pending full reconsideration and/or adjudication.

For this reason, and the significant number of additional reasons set forth in the PacifiCorp Petition, the Agency should grant an administrative stay of the Final Rule. The Agency should also reconsider the Final Rule in light of the new information presented in this petition and the PacifiCorp Petition.

Sincerely,

/S/

David F. Crabtree
Vice President and General Counsel
Deseret Power Electric Cooperative
10714 South Jordan Gateway
South Jordan, Utah 84095

anticipation of the coming cash deficit (raising negative consequences on small businesses and tribal interests throughout the economically disadvantaged areas served by Deseret Power's cooperative members and curtailing long-term revenue growth for Deseret Power and its member systems), adjust rebate programs and/or curtail investments planned in energy efficiency programs, etc. In addition, Deseret Power could conceivably be challenged before FERC in an attempt to successfully build a cash reserve in advance of the SCR installation through anticipatory rate adjustments.



William K. Lawson
Director, Environmental Services
1407 West North Temple, Suite 210
Salt Lake City, Utah 84116
801.220.4581 (Office)

September 2, 2016

Via E-Mail and Overnight Mail

The Honorable Gina McCarthy
Administrator, U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460
(McCarthy.Gina@epa.gov)

Shaun McGrath
Region 8 Administrator
U.S. Environmental Protection Agency
1595 Wynkoop Street
Denver, Colorado 80202
(r8eisc@epa.gov)

Re: Request for Reconsideration and Request for Administrative Stay of EPA's Final Rule: "Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze; Final Rule." Docket ID No. EPA-R08-OAR-2015-0463

Dear Administrators McCarthy and McGrath:

PacifiCorp respectfully requests that the U.S. Environmental Protection Agency ("EPA" or "Agency") reconsider and grant an immediate administrative stay of the compliance deadline and toll the effective date of certain requirements in the Agency's final rule cited above. 81 Fed. Reg. 43894 (July 5, 2016) ("Final Rule"). Specifically, PacifiCorp requests EPA reconsider and administratively stay the best available retrofit technology ("BART") requirements related to nitrogen oxide (NO_x) emission control equipment ("BART NO_x FIP") at PacifiCorp's Hunter power plant (Units 1 and 2) and Huntington power plant (Units 1 and 2) ("collectively Utah BART Units). PacifiCorp also requests EPA reconsider its disapproval of Utah's regional haze state implementation plan.

As the majority owner and operator of Hunter Units 1 and 2, and the owner and operator of Huntington Units 1 and 2, PacifiCorp will be forced to begin spending

millions of dollars (a total of **over one half billion dollars** of capital costs by EPA's estimate) to prepare to install selective catalytic reduction ("SCR") systems required under the BART NO_x FIP —expenditures that would be wholly unnecessary if PacifiCorp's legal challenges to the BART NO_x FIP are successful. Because these legal challenges are based on sound legal principles and are likely to succeed on the merits, and because a stay is in the public interest and necessary to prevent irreparable harm to PacifiCorp and PacifiCorp's customers, EPA should grant PacifiCorp's stay request. In contrast, no significant harm will result to either EPA or the public from a stay of the Final Rule — particularly because many of the emission reductions and resulting visibility improvements contemplated under the Final Rule already are in place as required by the Utah SIP, and the Final Rule does not require further emission reductions until 2021.

PacifiCorp is likely to succeed on the merits because the BART NO_x FIP is contrary to applicable law. First, EPA improperly rejected the State of Utah's regional haze state implementation plan ("Utah RH SIP"). Second, EPA failed to conduct an adequate statutory five-factor BART analysis to justify SCR for the Utah BART Units, and EPA has taken contradictory positions regarding the results of the BART analysis it did conduct. Not only do EPA's analysis and BART NO_x FIP disregard the Congressional mandate that states have the primary role in designing regional haze programs, they undermine the State of Utah's goal of improving visibility at a reasonable and responsible pace without causing unnecessary economic distress from higher electricity rates. EPA's rejection of the Utah RH SIP and imposition of the BART NO_x FIP are also inconsistent with EPA's BART determinations in other states.

PacifiCorp thus requests EPA to grant an immediate stay of the BART NO_x FIP and to reconsider its rejection of the Utah RH SIP and BART Alternative. PacifiCorp respectfully requests EPA act on this application by September 29, 2016. PacifiCorp will treat EPA's failure to act on this application by that date as a constructive denial of its request for stay.

I. Background

I.A. PacifiCorp's BART-eligible units in Utah.

PacifiCorp, which operates in Utah under the business name Rocky Mountain Power, supplies electricity to more than 1.8 million residential and business customers in the state of Utah and five other western states. As stated, PacifiCorp owns, in majority or whole, and operates the Utah BART Units.¹ PacifiCorp also owns a third unit at the Hunter plant, which is not BART-eligible, and is the owner of the Carbon plant, which closed in 2015. The Utah BART Units are the only sources in the state that Utah and EPA have determined to be subject to the Clean Air Act's ("CAA" or "the Act") BART requirements. As a result, the State of Utah, PacifiCorp and PacifiCorp's customers will

¹ Deseret Generation & Transmission Cooperative, Utah Associated Municipal Power Systems, and Utah Municipal Power Agency are co-owners of, and receive a portion of, the electrical output from certain affected units at the Hunter power plant. As a result, these entities and their customers will be similarly impacted by the Final Rule. The Huntington power plant is wholly owned and operated by PacifiCorp.

be uniquely and directly affected by EPA's final action regarding BART determinations in the Utah RH SIP.²

I.B. The NO_x history of the Utah BART Units.

The State of Utah has consistently submitted timely RH SIPs as required by the CAA. EPA, on the other hand, has not fulfilled its statutory duty to approve or disapprove these SIPs by hard deadlines established in the Act. *See* 42 U.S.C. § 7410(k)(1)(B) (requiring EPA to issue a finding of completeness within 60 days of a SIP submittal) and 7410(k)(2) (requiring EPA to issue a decision approving or disapproving the SIP within 12 months of finding a submission complete). Utah submitted RH SIPs in 2003 and 2008 that EPA failed to act on. As required by the CAA (42 U.S.C. § 7410(a)(2)), a Utah SIP becomes state law upon approval by the Utah Air Quality Board ("Board"), which is a necessary step before the SIP can be submitted to EPA. Thus PacifiCorp was, and is, legally bound by a Board-approved RH SIP even though EPA may never act on or approve that SIP.

The State of Utah submitted a RH SIP in 2003 (four years before EPA's deadline) and a revision in 2008 with requirements to make reasonable progress towards natural visibility in national parks and other similarly protected areas within its borders. *See* 42 U.S.C. § 7491. Utah's RH SIP revision in 2008 included NO_x BART determinations for the Utah BART Units. While EPA submitted comments to Utah on the NO_x BART determinations during the State comment process (to which the State responded in the final version), EPA did not act within the statutory deadlines to approve or disapprove the 2008 RH SIP submission as required by the CAA. In fact, EPA waited approximately four years before taking formal action on the 2008 RH SIP submittal. However, because the SIP submission became Utah law in 2008 (through amendments to Utah's State Implementation Plan, Section XX, Regional Haze, which were incorporated into state law through R307-110-28), PacifiCorp was legally required to install low NO_x burners and separated over-fire air ("LNB/SOFA" or "2008 BART Controls") on the Utah BART Units, which it did from 2009-2014.

Utah submitted additional RH SIP revisions to EPA on December 20, 2010 and May 26, 2011. The 2010 revisions clarified the NO_x BART determinations, while the 2011 submittal contained minor revisions related to the SO₂ BART Alternative SO₂ trading program. In the interim, EPA had been sued by WildEarth Guardians over its failure to act on Utah's 2008 RH SIP submission. EPA settled this suit with WildEarth Guardians through a consent decree, which required EPA to act on the 2008 Utah RH SIP by April 30, 2012.³ Acting to meet this deadline, but over Utah's and PacifiCorp's objections, EPA disapproved the State's BART determinations for NO_x and PM₁₀, while approving an SO₂ BART Alternative, the SO₂ backstop trading program. 77 Fed. Reg. 74355 (Dec. 14, 2012). EPA did not issue a FIP at this time. In response, Utah worked

² References to the Utah RH SIP include all supporting documents.

³ EPA incorrectly portrayed the 2011 SIP revisions as replacing the 2008 RH SIP, including the BART NO_x determinations in its 2016 Proposed Rule. However the BART NO_x determinations were only clarified, not replaced, by the 2011 SIP revisions. *See* 81 Fed. Reg. 2004, 2012 (Jan. 14, 2016).

closely with EPA to find a solution that would meet the applicable requirements of the CAA and satisfy EPA demands for the NO_x BART.

Based on more than ten years of working collaboratively with both EPA and a Regional Planning Organization (“RPO”) overseen by EPA, Utah has developed considerable knowledge and data regarding the most effective way to achieve greater “reasonable progress” at the Class I areas in Utah. Building on this expertise and local knowledge, and in close consultation with EPA, Utah submitted a revised RH SIP in 2015 – again at the request of EPA – which included extensive analysis supporting a BART Alternative for NO_x that would achieve greater reasonable progress than the most stringent BART option of SCR. The submission also provided an updated BART determination for PM₁₀. At EPA’s request, Utah submitted an additional RH SIP revision on October 20, 2015, with additional measures to ensure that the SO₂ emission reductions for the BART Alternative were accurately and transparently accounted for. EPA requested this additional RH SIP so that a potential obstacle to approval of the BART Alternative – that SO₂ emission reductions under the BART Alternative might be double counted – would be removed. EPA further commented on the BART Alternative for NO_x during the state rulemaking phase with the goal of helping Utah make sure that the BART Alternative met applicable CAA requirements.⁴ As a result, Utah’s determination that the BART Alternative would achieve greater reasonable progress represented extensive public involvement (including extensive involvement by EPA) through Utah’s public hearings and comment period.

After this lengthy history and close collaboration, EPA chose to issue a confusing and contradictory bifurcated proposed rule, where EPA found Utah’s weight-of-evidence analysis for the BART Alternative simultaneously to be both adequate and inadequate to meet the requirements of the CAA. EPA, Utah RH SIP Proposed Rule, 81 Fed. Reg. 2004 (Jan. 14, 2016) (“Proposed Rule”). EPA then disapproved the BART Alternative portion of the SIP on July 5, 2016, implying alleged violations of unidentified CAA “applicable requirements” in the way Utah analyzed the evidence for the BART Alternative. *See, e.g.*, 81 Fed. Reg. 43894, 43909, 43911-12.

II. Request for Reconsideration

II.A. EPA should reconsider the Final Rule because issues of central relevance were unavailable (and thus impracticable) to comment on during the period for public comment.

⁴ EPA claims that no one can rely on EPA’s statements or representations prior to a final rule: “EPA comment letters are intended to help improve any SIP revision that is under development, but they do not constitute agency action on that SIP revision or constitute any assurance of positive action. . . .” 81 Fed. Reg. at 43911. However, EPA offered its help in this instance specifically intending for it to be relied upon. And indeed it was. EPA does itself, the states, regulated sources and the public a disservice if, as the federal agency charged with helping states (and BART sources) comply with the CAA, its comments and directive assistance for SIP development are mere platitudes. EPA’s efforts to improve SIP revisions, however, only ring hollow as EPA now asserts that any such help – here and in the future – is inherently unreliable and in fact should never be relied upon.

EPA proposed amendments to the nationwide Regional Haze Rule on May 4, 2016, that included issues of central relevance to the Final Rule. 81 Fed. Reg. 26942 (“2016 RH Rule Amendments”). The public comment period in the Proposed Rule for the Utah RH SIP/EPA FIP closed on March 14, 2016. 81 Fed. Reg. at 2004. Although PacifiCorp submitted comments to EPA addressing the issues raised by the 2016 RH Rule Amendments, EPA refused to consider PacifiCorp’s comments because they were submitted after the close of the comment period for the Utah RH SIP. *See* EPA, Response to Comments for the Federal Register Notice for Air Quality State Implementation Plans (Utah) (June 1, 2016) EPA-R08-OAR-2015-0463 (“RH RTC”) at 8, note 1. However, because the issues raised by the 2016 RH Rule Amendments are of central relevance and may have tipped the weight of evidence against EPA’s decisions to reject the BART Alternative and to impose the BART NO_x FIP in the Final Rule, EPA should reconsider the Final Rule.

The CAA requires the Administrator of EPA to convene a reconsideration proceeding if “it was impracticable to raise [an] objection” to a final EPA action within the time for public comment or if “the grounds for such objection arose after the period for public comment (but within the time specified for judicial review)” and such objection is “of central relevance to the outcome of the rule.” 42 U.S.C. § 7607(d)(7)(B). The CAA further provides that “[a]ll documents which become available after the proposed rule has been published and which the Administrator deems are of central relevance to the rulemaking shall be placed in the docket as soon as possible after their availability.” 42 U.S.C. § 7607(d)(4)(B)(i). As explained by the 6th Circuit Court of Appeals:

The D.C. Circuit has read this portion of the Clean Air Act as permitting the EPA to consider comments submitted after the close of the comment period. *Sierra Club v. Costle*, 657 F.2d 298, 397-98 (D.C.Cir. 1981). This seems a reasonable interpretation of section 7607(d)(4)(B)(i), since this subparagraph refers both to comments submitted during the comment period and comments submitted afterward.

Air Pollution Control Dist. of Jefferson County v. EPA, 739 F.2d 1071, 1081 (6th Cir. Ct. App. 1984).

EPA should consider the 2016 RH Rule Amendments because they include information of central relevance to the outcome of the Final Rule. “[N]ew information . . . may dictate a revision or modification of any promulgated standard or regulation.” *Oljato Chapter of Navajo Tribe v. Train*, 515 F.2d 654, 660 (D.C. Cir. 1975) (citing legislative history); *see also* *Maier v. EPA*, 114 F.3d 1032, 1037 (10th Cir. 1997) (citing *Oljato*). Because EPA’s 2016 RH Rule Amendments were issued after the comment period for the Final Rule, EPA did not consider the following key issues of central relevance to its decisions: (1) reductions in anthropogenic emissions have had limited impact on visibility improvements for Class I areas in the Western United States; and (2) when determining visibility impacts, EPA recommends states compare those days with the most impairment from *anthropogenic* sources rather than just the days with the most

haze. Because EPA did not take into account or receive meaningful comments on these centrally relevant factors it did not properly consider them. Thus, reconsideration is appropriate.

II.A.1 The 2016 RH Rule Amendments add sufficient weight for EPA to approve the BART Alternative.

In the 2016 RH Rule Amendments, EPA advises states to measure visibility impairment “based on anthropogenic visibility impairment rather than based on the days with highest deciview values due to impacts from all types of sources.” 81 Fed. Reg. at 26955. As EPA explains, the current Regional Haze Rule “could be read to direct states and the EPA to use the days with the most perceptible *anthropogenic* impairment as the 20 percent most impaired days.” *Id.* (emphasis added). These conclusions from the 2016 RH Rule Amendments support Utah’s consideration of a variety of visibility-related data, such as the Annual Emissions Comparison as well as the IMPROVE Monitoring Data, rather than just the 98th Percentile modeling metric (which EPA relied on exclusively). *See* Sections III.A.3, 4, and 7 *infra* outlining EPA’s disapproval of the Utah RH SIP based on an evaluation of these metrics that contradicts the 2016 RH Rule Amendments.

EPA admits that, while visibility improvement has been significant in the East (where source-specific BART was largely avoided and BART Alternatives were used), some areas in the West have not experienced significant improvement because “reduced emissions from man-made sources have been overwhelmed by impacts from wildfire and/or dust events.” *Id.* at 26946. This admission is significant and translates to an admission that the modeled visibility improvements, upon which EPA relies to reject the BART Alternative, often do not translate into real visibility improvements in western Class I areas. This aligns with and supports Utah’s findings, based on the IMPROVE monitoring data, that reductions in anthropogenic NO_x emissions are not reliably linked to visibility improvements. *See* Utah DAQ Staff Review, 2008 PM BART Determination and Recommended Alternative to BART for NO_x, May 13, 2015, at 1-14 through 1-19 (“Staff Report”).

EPA also endorses strategies developed by RPOs to best identify and address the pollutants that contribute to haze within specific regions. 81 Fed. Reg. at 26947. This supports Utah’s reliance on increased SO₂ reductions to compensate for slightly lower NO_x reductions under the BART Alternative, since the RPOs (the Western Regional Air Partnership, or “WRAP,” in this instance) have identified SO₂ as the most significant anthropogenic pollutant contributing to the haze on the Colorado Plateau. *See* GCVTC Report at 32-33; WRAP Report at 6-11 through 6-16. *See also* Section III.A.7 *infra* outlining EPA’s rejection of Utah’s Annual Emissions metric, which relies on SO₂ as the pollutant with the greatest impact on visibility for Class I areas on the Colorado Plateau.

II.A.2 The 2016 RH Rule Amendments undermine EPA’s decision that SCR is reasonable as BART.

The same findings discussed above support PacifiCorp’s objection that SCR is not reasonable as BART in EPA’s FIP. First, the 2016 RH Rule Amendments verify that

emission reductions from stationary sources have not led to improved visibility in some areas in the West. Instead, the questionable impacts from anthropogenic NO_x emissions reductions in the West, call into question EPA's modeled visibility improvements for the affected Class I areas. EPA's BART analyses use modeled visibility improvements to support its FIP, predicting a combined 6.4 dv modeled visibility improvement (1.5 dv + 1.3 dv + 1.9 dv + 1.7 dv) from the installation of LNB/SOFA/SCR at all of the Utah BART Units. 81 Fed. Reg. at 43903-04, Tables 2, 3, 4, and 5. Yet, as now conceded in the 2016 RH Rule Amendments, such modeled visibility improvements do not reliably translate to real visibility improvement in all western Class I areas. EPA recognizes that there "are . . . some western areas where visibility has changed only by a slight amount." 81 Fed. Reg. at 26946. EPA has a statutory duty to determine the "degree of improvement in visibility which *may reasonably be anticipated to result* from the use of such technology." 42 U.S.C. § 7491(g)(2) (emphasis added).

Given this statutory duty and the information referred to in the 2016 RH Rule Amendments, EPA should stay the Final Rule and commence a "reconsideration" proceeding to (1) consider the BART controls already required for these "western areas" where little to slight visibility improvement occurred, (2) determine why those BART controls did not result in greater visibility improvement, (3) determine the difference between the modeled and actual visibility improvements for these western areas, (4) identify why EPA's modeled visibility data were incorrect, and (5) then apply the lessons learned to EPA's BART determination for the Utah BART Units. This analysis on reconsideration is particularly important where, as here, data presented by Utah show a lack of actual monitored visibility improvements from previous NO_x emissions reductions. *See* Staff Report at 1-14 through 1-19.

Further, the 2016 RH Rule Amendments underscore that BART controls must be implemented before the compliance deadline of the first implementation period, which is July 31, 2018. *See* 2016 RH Rule Amendments at 26965. Although EPA proposes extending the due date for SIPs for the second implementation period (2018-2028), EPA emphasizes that it does "*not* intend for the proposed changes to affect the development of state plans for the first implementation period . . . due under the existing Regional Haze Rule." *Id.* at 26944. EPA emphasizes that SIPs must contain emission reduction measures targeted at achieving reasonable progress by the close of the implementation period addressed by the SIP, a "long-standing EPA interpretation." *Id.* *See* Section III.A.6 *infra*, outlining the failure of EPA's FIP to require BART to be installed by 2018, the close of the first implementation period.

Because the 2016 RH Rule Amendments contradict key analyses that EPA relied on to disapprove the BART Alternative and to support the FIP, EPA should reconsider the Final Rule.

III. Administrative Stay Argument

In addition to the issues for reconsideration outlined above, EPA should stay implementation of the BART NO_x FIP requirements because there are numerous legal

and technical flaws in the Final Rule. Because the FIP is dependent upon EPA's decision to reject the BART Alternative, EPA should stay the entire Rule.

The legal standard for an administrative stay is even broader than the standard for a judicial stay. The Administrative Procedures Act grants EPA authority to stay the BART NO_x FIP's requirements when "justice so requires . . . pending judicial review." 5 U.S.C. § 705. Despite this broad authority to grant stays, agencies often apply the more specific criteria governing preliminary injunction requests when determining whether a stay should be granted. *See Affinity Healthcare Servs. v. Sebelius*, 720 F. Supp. 2d 12, 15 note 4 (D.D.C. 2010) ("Motions to stay agency action pursuant to [5 U.S.C. § 705] are reviewed under the same standards used to evaluate requests for interim injunctive relief."). "A plaintiff seeking a preliminary injunction must establish that he is likely to succeed on the merits, that he is likely to suffer irreparable harm in the absence of preliminary relief, that the balance of equities tips in his favor, and that an injunction is in the public interest." *Winter v. NRDC*, 555 U.S. 7, 20 (2008); *see also RoDa Drilling Co. v. Siegal*, 552 F.3d 1203, 1208 (10th Cir. 2009) (same).

The Tenth Circuit has adopted a less stringent requirement for proving the likelihood of success. *See Davis v. Mineta*, 302 F.3d 1104, 1111 (10th Cir. 2002). In the Tenth Circuit:

If the plaintiff can establish that the latter three requirements tip strongly in his favor, the test is modified, and the plaintiff may meet the requirement for showing success on the merits by showing that questions going to the merits are so serious, substantial, difficult, and doubtful as to make the issue ripe for litigation and deserving of more deliberate investigation."

Id. (citation omitted). This modified requirement for likelihood of success applies here, as discussed below.

III.A. PacifiCorp Is Likely to Prevail on The Merits.

The EPA's NO_x BART determination in the FIP should be stayed by EPA because the determination, and EPA's rejection of Utah's RH SIP, are flawed in several critical respects, as shown below. Thus, PacifiCorp's challenges to EPA's disapproval of the Utah RH SIP and adoption of the FIP in the U.S. Court of Appeals for the Tenth Circuit are likely to succeed on the merits (and, at a minimum, present serious and substantial questions). EPA's errors range from fundamental legal misinterpretations and improper applications of its own rules governing BART determinations to flawed technical analyses and procedural failures. In addition, EPA's errors result in unlawful federal interference with the State's regulatory processes and improperly require expenditures in excess of \$700 million dollars that will impact energy costs throughout the State of Utah. EPA should take into account the seriousness of these issues in evaluating PacifiCorp's likelihood of success on the merits. Even if EPA believes that the courts may ultimately sustain the Final Rule upon judicial review, PacifiCorp's claims provide a compelling basis for a stay pending judicial review because the extreme

costs, indeterminate benefits, and the potential for interference with Utah's state sovereignty present such substantial issues.

III.A.1. PacifiCorp's requests for reconsideration support a stay.

As outlined above, EPA's failure to consider the 2016 RH Rule Amendments, and the related implications, when it promulgated the Final Rule supports reconsideration of the Final Rule by EPA. The D.C. Circuit Court has found that a legitimate case for reconsideration supports a stay. *See, e.g., Portland Cement Ass'n v. EPA*, 665 F.3d 177, 189 (D.C. Cir. 2011) ("industry should not have to build expensive new containment structures until the standard is finally determined"). In addition, several courts have recently granted stays based on substantial issues of cost and state sovereignty raised under regional haze rules, even where EPA has refused to grant an administrative stay. *See Texas v. EPA*, 2016 WL 3878180 at *20 (5th Cir. July 15, 2016); *Oklahoma v. EPA*, 723 F.3d 1201, 1206-07 (10th Cir. 2013); *Wyoming v. EPA*, Nos. 14-9529, 14-9530, 14-9533, 14-9534 (10th Cir. Sept. 9, 2014); *Cliffs Nat. Res. Inc. v. EPA*, Nos. 13-1758, 13-1761 (8th Cir. June 14, 2013). As outlined above, the Tenth Circuit Court of Appeals has ruled that plaintiffs may meet the success on the merits requirement by showing their claims are "serious, substantial, difficult, and doubtful as to make the issue ripe for litigation and deserving of more deliberate investigation." *Davis v. Mineta*, 302 F.3d 1104, 1111 (10th Cir. 2002). Because PacifiCorp's claims for reconsideration are sufficient to meet this standard, they also support the likely success of such claims on the merits and the need for EPA to grant the requested stay.

III.A.2. EPA failed to consider required cost and energy/environmental impacts when rejecting the BART Alternative.

EPA violated the clear language of the Regional Haze Statute (42 U.S.C. §§ 7491 and 7492) and Rule (40 C.F.R. §§ 51.300-309) by ignoring comparative costs in its rejection of the BART Alternative. When evaluating the BART Alternative, the ultimate question is whether or not it will result in greater "reasonable progress" than BART. 40 C.F.R. § 308(e)(2). EPA improperly redefines "reasonable progress" as solely "greater visibility improvement," while the Regional Haze Statute clearly requires consideration of costs – including the comparative cost differences between the BART Alternative and BART – to determine reasonable progress. Indeed, the plain language of the CAA makes crystal clear that "in determining reasonable progress there shall be taken into consideration the costs of compliance" 42 U.S.C. § 7491(g)(1). And yet EPA claims, "because the described cost difference does not have a direct bearing on whether the BART Alternative achieves greater reasonable progress, it is not material to our action whether we agree or disagree with Utah's conclusion that the BART Alternative would have a lower cost impact." 81 Fed. Reg. at 43901. EPA cannot make a determination about whether the BART Alternative makes greater reasonable progress than BART, without comparing the two options, and a reasonable progress determination, by statute, considers costs.

By refusing to consider comparative costs, EPA effectively has written "reasonable" out of the "reasonable progress" standard and instead attempts to impose a

more restrictive “visibility-only” standard that was not contemplated by Congress. Even in a ruling where cost was less prominently required by the statute, the U.S. Supreme Court required EPA to consider costs, explaining, “Statutory context reinforces the relevance of cost.” *Michigan v. EPA*, 135 S. Ct. 2699, 2708 (2015). Here, the need to consider the comparative cost difference is even more important because not only the context but the plain language of the RH Statute requires it.

Also, EPA’s own regulations require EPA to “[c]onsider the costs of compliance” as the first requirement for determining reasonable progress. 40 C.F.R. § 51.308(d)(1)(i)(A). The Tenth Circuit Court of Appeals confirmed the requirement to consider not only costs, but also and energy/environmental impacts, to determine reasonable progress under the Regional Haze Statute:

“Reasonable progress” is measured by comparing “the costs of compliance, the time necessary for compliance, . . . the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any existing [regulated] source” (known as the “four factors”).

WildEarth Guardians v. EPA, 770 F.3d 919, 924 note 3 (10th Cir. 2014) (quoting 42 U.S.C. § 7491(a)(4), emphasis added).

EPA’s refusal to consider energy/environmental factors as part of the assessment of the BART Alternative is similarly fatal to EPA’s ultimate determinations in the Final Rule. As noted above, the Tenth Circuit has explained that “reasonable progress” is measured by comparing, among other things, energy and non-air quality environmental impacts. *WildEarth Guardians*, 270 F. 3d at 924. Like costs, energy/environmental impacts are required to determine reasonable progress by the Regional Haze Statute: “in determining reasonable progress there shall be taken into consideration . . . the energy and nonair quality environmental impacts of compliance.” 42 U.S.C. § 7491(g)(1). Like costs, EPA claims that although “the Utah BART Alternative would avoid an annual energy penalty of approximately \$2 million Because such benefits do not have direct bearing on whether the BART Alternative achieves greater reasonable progress, it is not material to our action whether we agree or disagree with Utah’s assessment that they reduce energy and non-air quality impacts.” 81 Fed. Reg. at 2024.

In short, PacifiCorp will prevail because EPA defied the plain language of the statute when it refused to consider comparative costs and energy impacts/ non-air quality environmental impacts to disapprove Utah’s BART Alternative.

III.A.3. EPA introduces a new, narrow “clearly demonstrated . . . greater visibility benefits” standard in the Final Rule that is contrary to the statutory “greater reasonable progress” standard.

The EPA excluded costs and energy/non-air quality impacts from consideration when analyzing the BART Alternative because EPA illegally changed the statutory “greater reasonable progress” standard to the illegal and narrower “greater visibility benefits” standard. For the first time in the Final Rule, EPA introduces this new standard

for the weight-of-evidence analysis for the BART Alternative. EPA's new standard is most clearly articulated in the Response to Comments: "The weight-of-evidence analysis answers just this question—whether the Alternative will clearly result in greater visibility benefits." RH RTC at 39. However, under the Clean Air Act a "reasonable progress" analysis, and by extension a "greater reasonable progress" analysis, requires analysis of not just visibility impacts but also the specific costs of compliance, energy impacts, other environmental impacts, and the useful life of the source.⁵ EPA's newly minted "greater visibility benefits" test excludes several of these factors and thus does not comply with the plain language of the statute.

Seemingly in an effort to quietly implement a new standard in the Final Rule, EPA fails to clearly explain the new standard or its narrowness except in its application. At page 43902 in the first column, for example, EPA applies the standard to reject the BART Alternative: "[W]e find that, on balance, the evidence does not show that the Alternative *clearly achieves greater visibility benefits* than BART." (Emphasis added); *see also, e.g.*, 81 Fed. Reg. at 43897, 43901, 43909, 43915. EPA then continues to develop and apply the new standard through several separate explanations in the Final Rule.

[Evaluating the evidence] involves assigning weights to each piece of information that indicate *the degree to which it supports a finding that the alternative program will achieve greater visibility benefits* [emphasis added]. Such a weighing system might find that: (i) The information *clearly* shows the alternative will achieve greater reasonable progress than BART [emphasis in original]; (ii) the information supports the alternative in some way, *but not clearly* [emphasis added]; or (iii) the information does not support the alternative. . . .

. . . .

[W]e assessed the [State-provided] metrics collectively to determine whether the relevant evidence, considered as a whole, *clearly demonstrated that the alternative program achieves greater visibility benefits*. [emphasis added] . . . Our initial review considered whether each of the nine metrics met the *threshold regulatory requirement that information considered in a weight-of-evidence analysis be relevant to an assessment of visibility impacts*. [emphasis added] . . . the [costs and energy and non-air quality] metrics do not evaluate *visibility* benefits [emphasis in original] at the nine Class I areas impacted by the State's sources. Therefore . . . we did not give this information any weight in our evaluation of whether the State has demonstrated that its BART Alternative achieves greater reasonable progress than BART.

⁵ "For purposes of this [Regional Haze] section—in determining reasonable progress there shall be taken into consideration the costs of compliance, the time necessary for compliance, and the energy and nonair quality environmental impacts of compliance, and the remaining useful life of any existing source subject to such requirements." 42 U.S.C. § 7491(g)(1).

81 Fed. Reg. at 43897.

In other words, EPA's new "greater visibility benefits" standard, as applied, takes the statutory definition of greater "reasonable progress," subtracts from that definition the required components of costs, energy and non-air quality considerations, and then applies the new standard absent such components. This EPA cannot do. Courts have found procedural error where, as here, "vital assumptions" regarding the basis for EPA's new standard do not conform to the governing statute and EPA's own regulations, and the Agency's subsequent justification was not subject to notice-and-comment rulemaking. See *New Jersey v. EPA*, 517 F.3d 574, 583-84 (D.C. Cir. 2008) (vacating EPA rulemaking that "nullifie[d]" provisions of the CAA). Vacatur of agency action is "the normal remedy" for procedural error. *Allina Health Servs. v. Sebelius*, 746 F.3d 1102, 1110-11 (D.C. Cir. 2014). PacifiCorp is likely to prevail on the merits regarding this issue.

III.A.4. EPA failed to give proper deference to Utah's selection and weighing of metrics in rejecting the BART Alternative.

Congress stated in Section 169A(b)(2)(A) of the CAA that BART is "determined by the State." 42 U.S.C. § 7491(b)(2)(A) Utah determined that LNB/SOFA were NO_x BART for the Utah BART Units in its 2008 SIP, rejecting SCR. This requirement subsequently became law in Utah (and EPA failed to fulfill its duty to respond to this action for years). Based on this PacifiCorp installed the new equipment required by Utah's NO_x BART determination. When EPA rejected this determination more than four years after it was submitted, the State proceeded to propose a BART Alternative that would achieve greater reasonable progress, based on an analysis of nine different metrics. However, EPA again rejected Utah's analysis based on a single metric (out of the nine) that EPA claims is enough—on its own—to overturn the State's determination.

The single metric is the 98th percentile metric. The 98th percentile metric represents the visibility impact occurring on a single day during the year (normally the eighth highest day), and is based on a computerized model which relies on a myriad of inputs and assumptions. As EPA itself has recognized, this metric represents only "the extreme tails of a distribution," appropriate for determining whether a source is BART-eligible, but not to determine the precise amount of visibility impact. EPA, 70 Fed. Reg. 39104, 39121 (July 6, 2005) ("BART Guidelines").

In order to determine reasonable progress, as required for a BART Alternative, the RH Rule requires "improvement in visibility for the most impaired days . . . [and] no degradation in visibility for the least impaired days." 40 C.F.R. § 51.308(d)(1). The most and least impaired days are defined as the 20 percent highest and lowest days of monitored visibility impairment. 40 C.F.R. § 51.301. Thus, the 98th percentile metric—based on modeling, not monitoring—is not sufficient, by itself, to determine improvement in visibility or reasonable progress. Again, EPA normally recognizes this fact:

[T]he 98th percentile value would only be used to determine whether a particular BART-eligible source would be subject to further review by the State. . . . In determining what, if any, emission controls should be required, the State will have the opportunity to consider the frequency, duration, and intensity of a source's predicted effect on visibility.

BART Guidelines, 70 Fed. Reg. at 39121. Contrary to this EPA statement, in the Final Rule EPA wrongly “gives most weight to the visibility impacts based on the 98th percentile air quality modeling results.” In fact, EPA gives so much weight to the 98th percentile metric that it overcomes all the other metrics relied on by Utah and wrongly causes EPA to conclude that the BART Alternative does not result in greater reasonable progress (or to be more precise, EPA's substitute standard—greater visibility improvement). 81 Fed. Reg. at 43899.

EPA also claims that “the State's summary of the weight-of-evidence did not include the results from the 98th percentile modeling impact,” and that the State “did not assess the relative strengths and weaknesses of the metrics.” 81 Fed. Reg. at 43897-98. However, contrary to EPA's claim in the Final Rule, Utah took the 98th percentile metric into account and properly weighed its value in making its determination that the BART Alternative provides greater reasonable progress than EPA's BART determination of SCR. *See* Staff Report, at 1-14 through 1-19.

While the Staff Report is understandably technical, its findings are clear: NO_x reductions over the past 15 years have not resulted in the visibility benefits predicted by the 98th percentile metric, while SO₂ reductions have. *Id.* at 1-15. Based on these findings:

DAQ has greater confidence that modeled improvements due to reductions in SO₂ will be reflected in improved visibility . . . to the Class I areas, while reductions in NO_x have a more uncertain benefit.”

Id. at 1-19. Based on this substantial analysis, the State gave more weight to the visibility benefits associated with its BART Alternative, which relies on the reduction of both SO₂ and NO_x emissions, and rightly gave only marginal weight to the 0.14 dv advantage modeled for the 98th percentile metric associated with EPA's BART requirement, which only relied on the reduction of NO_x emissions. The data contradicting the 98th percentile metric include real-time monitoring data showing that actual NO_x emission reductions achieved at multiple anthropogenic sources surrounding the Class I areas have not led to visibility improvements predicted by the model. *Id.* at 1-15 and 1-18. On the other hand, the same monitoring data showed that SO₂ reductions were more reliably linked to the visibility improvements predicted by the modeling. *Id.* Utah properly reviewed observed monitoring data to verify, analyze and provide context for the computer model results used in the 98th percentile metric. With all of that information in mind, Utah was able to determine what weight the 98th percentile modeling results should be given in the BART Alternative analysis. Such actions fall totally within the State of Utah's discretion; such discretion cannot be coopted by EPA because it does not like the state's result. The BART Guidelines establish that states have the “flexibility to assess visibility

improvements due to BART controls by one or more methods, or by a combination of methods.” 70 Fed. Reg. at 39129, and states “are **free to determine the weight and significance to be assigned to each factor**” for visibility improvements. 40 C.F.R. Part 51, App. Y, IV(D)(5) (emphasis added).

EPA has been warned by the courts before for failing to account for the limitations of the computerized modeling relied on for the 98th percentile metric. The Ninth Circuit Court of Appeals recently remanded a BART determination to EPA that failed to account for “the model’s ability to anticipate improvements at a level allegedly within its margin of error, whether perceptible or not to the human eye.” *Nat’l Parks Conservation Ass’n v. EPA*, 788 F.3d 1134, 1147 (9th Cir. 2015). EPA has estimated that, based only on this metric, its chosen BART control (SCR at all four units) would result in an average incremental visibility improvement (over the BART Alternative) at the nine impacted Class I areas of just 0.14 deciviews (approximately one-seventh of what is discernible to the human eye). 81 Fed. Reg. at 43898-99. And yet EPA relies solely on this metric, for which many of the computerized modeled visibility results are within the margin of error, to reject Utah’s BART Alternative, which properly gave this metric less weight. Further, the cases EPA cites as support for primary reliance on the 98th percentile metric do not support sole reliance on this metric when it contradicts other evidence submitted by a State. *See* 81 Fed. Reg. at 2022, note 90 (claiming to cite regional haze determinations where the 98th percentile metric is “one of the primary metrics that EPA has relied on”).⁶

The CAA Statute requires that “the Administrator shall approve such [SIP] as a whole if it meets all of the applicable requirements of [the Clean Air Act].”). By reanalyzing, distorting, and even completely disallowing several of the metrics provided by the State, and placing undue emphasis on the 98th percentile metric, EPA unlawfully imposes its own interpretation of which “evidence” should be considered and emphasized. Such value judgments are not an applicable requirement under the CAA but are instead left to the discretion of the states. EPA can cite no statute or regulation that requires the 98th percentile metric to outweigh all other evidence presented by the state.

Because “Congress intended the states to decide which sources impair visibility and what BART controls should apply to those sources,” *American Corn Growers Ass’n v. EPA*, 291 F.3d 1, 8 (D.C. Cir. 2002), EPA must defer to the State’s analysis of the evidence unless it violates an applicable requirement of the Clean Air Act. Here, it does not. EPA admits Utah’s BART Alternative is a “close call.” 81 Fed. Reg. at 43912. EPA also admits its role is deferential to the States as long as a SIP meets the applicable requirements of Act. *See, e.g.*, 81 Fed. Reg. at 2006 (“it is preferable that the regional haze program be implemented through state plans”); 81 Fed. Reg. at 43909, 43912. And EPA admits it must approve a regional haze SIP when a state’s discretion is “reasonably exercised and . . . supported by adequate documentation of its analyses.” 81 Fed. Reg. at 43909, citing Proposed Rule, 81 Fed. Reg. at 2006. As discussed above, the State’s

⁶ It should be noted that the Maryland determination cited by EPA does not use or mention the 98th percentile metric. The Tesoro and Arizona determinations merely used the 98th percentile metric as additional support for other state metrics that demonstrated greater reasonable progress by substituting SO₂ for NO_x reductions.

legitimate consideration of the undisputed and massive cost difference between the Alternative and BART, as well as the energy/environmental costs of BART, are appropriate under the Act. The State's discounting of the marginal visibility improvements predicted by the 98th percentile metric, which are contrary to actual monitored data, is appropriate under the Act. Where, as here, the State has provided numerous metrics supported by legitimate evidence and analysis, a "close call" must weigh in Utah's favor, and EPA must give the proper deference to the State's determination. PacifiCorp is likely to prevail on this issue.

III.A.5. EPA's failure to properly account for "existing pollution control equipment" when calculating the visibility impact and costs for the FIP violates the Clean Air Act.

EPA's NO_x BART analysis fails to account for the installed LNB/SOFA when conducting the baseline emissions analyses, cost analyses, and visibility improvement analyses. The LNB/SOFA were installed at each of the Utah BART Units from 2006-2014, a fact that EPA openly acknowledges. *See, e.g.*, 81 Fed. Reg. at 2023. However, EPA conducted a new NO_x BART analysis for its FIP that ignored the existing LNB/SOFA for all practical purposes (pretending the LNB/SOFA didn't exist when conducting the cost and visibility analyses). EPA calculated "cost-effectiveness" and "visibility improvement" for NO_x BART at the Utah BART Units as if the LNB/SOFA had not been installed. EPA's failure to account for "existing pollution control equipment" is contrary to the CAA and skewed EPA's FIP to make SCR look more reasonable by taking credit for reductions from the existing equipment. *See North Dakota v. EPA*, 730 F.3d 750, 763-64 (8th Cir. 2013) (vacating a FIP where EPA ignores reductions from existing pollution control equipment).

Given that a review of "any pollution equipment in use or in existence at the source" is one of the five BART factors, EPA is required by statute to properly account for this equipment in its BART analysis. On this basis alone, EPA should grant this Request for Reconsideration and Stay.

III.A.6. EPA's FIP is illegal because it does not – and never can – ensure BART implementation by 2018 as required by law.

EPA's FIP does not ensure the installation of BART controls during the time period covered by the SIP and is therefore unlawful. In developing a FIP for NO_x BART, EPA is subject to the same regulatory limitations as a state. *See* 77 Fed. Reg. 40150, 40164 (July 6, 2012) ("At the point EPA becomes obligated to promulgate a FIP, EPA steps into the State's shoes, and must meet the same requirements. . . ."). Further, "EPA may not use its own delay as an excuse for imposing burdens . . . that the Regional Haze Rule does not permit." *Texas v. EPA*, No. 16-60118, 2016 WL 3878180, at *17 (5th Cir. July 15, 2016). Thus, if the EPA FIP does not comply with same requirements that would bind Utah, even if this is caused by EPA's failure to timely act on Utah's 2008 SIP, the FIP is invalid.

Under the Regional Haze Rule, SIPs (and therefore FIPs) must establish “the emission reduction measures needed to achieve [the reasonable progress goal] *for the period covered by the implementation plan*.” 40 C.F.R. § 51.308(d)(1)(i)(B) (emphasis added). SIPs must also impose “enforceable emissions limitations, compliance schedules, and other measures as necessary to achieve the reasonable progress goals” within the planning period of the SIP. 40 C.F.R. § 51.308(d)(3).

BART is one of the enforceable emissions limitations and must be included in a state’s initial SIP. 40 C.F.R. § 51.308(e). The first planning period for SIPs lasts from 2007–2018, and states are required to submit revised SIPs for each ten-year period thereafter. 40 C.F.R. § 51.308(b), (f); *see also* 42 U.S.C. § 7491(b)(2)(B). The Regional Haze Rule specifically articulates the requirement that “all necessary emission reductions take place during the period of the first long-term strategy for regional haze” for BART Alternatives, which is the same time period as the requirement for installation of BART. 40 C.F.R. § 51.308(e)(2)(iii). This requirement is proved by “including schedules for implementation.” *Id.*

EPA has consistently required that BART be installed and implemented before the end of the first planning period. As EPA explained for its Wyoming FIP:

[T]he statute explicitly calls for a program of reductions over time, and incremental reasonable progress towards the long-term goal. The requirement for states to implement BART applies during the first planning period ending in 2018 and is the first increment of progress.

79 Fed. Reg. 5032, 5170; *see also id.* at 5055 (rejecting claims that requiring BART reductions to occur within the first planning period was “front-loading” the reasonable progress requirements). In SIP actions for both Maine and Arizona, EPA again indicated that BART requirements must be implemented during the first implementation period. *See* 78 Fed. Reg. 8083, 8085 (Arizona SIP disapproval) (“During the first implementation period for the Regional Haze Program (through 2018), states must also impose best available retrofit technology (‘BART’) on ‘BART-eligible sources’”); 77 Fed. Reg. 24385, 24387 (Maine SIP approval) (“States must determine BART eligibility and controls only during this first planning period”). EPA has definitively stated that the first regional haze planning period for Utah ends in 2018. 77 Fed. Reg. 28825, 28838 (May 16, 2012) (when reviewing a previously submitted BART Alternative, EPA said: “The first planning period ends in 2018”); 77 Fed. Reg. 74355, 74368 (Dec. 14, 2012) (“Nor, at this time, are such emissions increases expected during the first planning period (2003-2018).”).

However, despite its own requirements, consistent practice, and specific statements about Utah’s first planning period ending in 2018, EPA’s BART FIP for Utah does not require installation of SCR until 2021, three years after the end of the first planning period. 81 Fed. Reg. at 43924 (40 C.F.R. § 52.2336(d)) (establishing compliance dates of 2021). While EPA may argue that its belated FIP BART requirements resulted from the late disapproval of Utah’s SIP, it is actually EPA’s failure

to act on Utah's 2008 SIP (which contained BART for NO_x) that accounts for this delay.⁷ Because EPA's delay contributed to the late FIP, and because the FIP's BART timing requirement is inconsistent with the CAA and EPA's consistent practices, the FIP is invalid. PacifiCorp is likely to prevail on the merits on this issue.

EPA is aware that, although BART controls can be required on eligible units only during the first regional haze planning period, emission sources like the Utah BART Units will be subject to ongoing regulation under regional haze requirements. In other words, the State of Utah surely will visit again in future planning periods whether or not NO_x controls such as SCR systems are appropriate at the Utah BART Units. 81 Fed. Reg. 26942, 26947 (May 4, 2016).

III.A.7. EPA improperly rejected Utah's "annual emissions comparison."

Utah found that the "combined emissions of three key visibility-impairing pollutants will be lower under the BART Alternative scenario and that this supported the weight of evidence determination that the BART Alternative will provide greater reasonable progress than BART." 81 Fed. Reg. at 43898. EPA found that, although this metric "is a relevant concept," in this instance the metric is "inconclusive," and Utah could not offset minor NO_x emissions increases with substantial SO₂ and PM emissions reductions because of "differences in visibility impacts and complex interactions between pollutants." *Id.*

EPA's actions ignore the substantial data already before the agency regarding the impact of SO₂ and PM emissions on visibility. A commission established by the CAA to study the Colorado Plateau, where all the Class I areas affected by the Utah BART Units are located, determined that sulfates (produced by SO₂ emissions) are the most significant anthropogenic pollutant contributing to the haze on the Colorado Plateau. *See* Grand Canyon Visibility Transport Commission, Recommendations for Improving Western Vistas (June 10, 1996) at 33 ("GCVTC Report") (recommending near- and long-term focus on SO₂ to ensure reasonable progress); *see also* 40 C.F.R. § 51.309.⁸ The WRAP the successor to the GCVTC, provides regular reports to EPA on reasonable progress for Class I areas impacted by Utah. Some of these reports are included in the record for the Utah RH SIP. *See, e.g.,* WRAP Regional Haze Rule Reasonable Progress Report Support Document, State and Class I Area Summaries, at 6-11 through 6-16 (Doc. No. EPA-R08-OAR-2015-0463-0200) ("WRAP Report"). The WRAP Report includes analyses of the relative visibility impacts by pollutant (expressed as "aerosol extinction") at the affected

⁷ Given the planning, engineering, procurement, and construction necessary to construct simultaneously four SCRs, not to mention the need to locate and obtain reasonably priced electricity to replace that produced by the Hunter and Huntington power plants during construction shut-downs, the four SCRs required by EPA's FIP cannot reasonably be constructed prior to the end of 2018.

⁸ As a result of this and other information, there has been a concerted focus on anthropogenic SO₂ emissions as the leading impairment to visibility for Class I areas on the Colorado Plateau. *See, e.g.,* 77 Fed. Reg. 73926 (approval of Wyoming SIP with focus on SO₂ reductions); 77 Fed. Reg. 74355 (approval of Utah SIP with focus on SO₂ reductions); 77 Fed. Reg. 30953 (approval of New Mexico SIP with focus on SO₂ reductions).

Class I areas. The WRAP Report documents, for example, that ammonium sulfate (produced by SO₂ emissions combining with ammonia) accounted for 21% of the visibility impacts on the most impaired days at Zions Canyon, while ammonium nitrate (produced by NO_x emissions combining with ammonia) accounted for only 7%, from 2005-2009. Canyonlands shows a similar ratio, with 23% impacts from ammonium sulfate compared to 14% from ammonium nitrate. *Id.* at 6-11. This information clearly establishes that SO₂ emissions reductions will have as much, or even greater, impacts on visibility than NO_x emissions reductions.

Similarly, Progress Reports submitted to EPA every five years from the State further validate the WRAP findings. *See, e.g.*, Utah Div. of Air Quality, Progress Report for Utah's State Implementation Plan for Regional Haze, May 18, 2015 at F-26 through F-28 ("For all sites, ammonium sulfate was the largest contributor to the non-Rayleigh aerosol species of extinction."). For Zions Canyon, ammonium sulfate accounted for 21% of visibility impairment for 2009-2013, while ammonium nitrate accounted for only 7%. *Id.* at F-27. EPA almost concedes the existence of this data in the Proposed Rule:

[W]e propose to concur with Utah's finding that SO₂ emissions reductions should provide visibility benefits in all seasons and that sulfate is the largest contributor to visibility impairment at the affected Class I areas. Furthermore, we propose to find that these observations suggest that the BART Alternative is likely to achieve greater reasonable progress.

81 Fed. Reg. at 2022. In the Final Rule, EPA agrees with the State that "sulfate is the largest contributor to visibility impairment at the affected Class I areas." 81 Fed. Reg. at 43900.

Because the State reasonably exercised its discretion and supported its decision with adequate documentation, the burden is on EPA to show that State's decision does not meet an applicable requirement. *See United States v. Minnkota Power Coop.*, 831 F. Supp. 2d 1109, 1121 (D. N.D. 2011) (placing burden on EPA to show state permitting decision is "unreasonable, arbitrary, or capricious"). With all of the available information showing the greater visibility impacts of SO₂ emissions as compared to NO_x emissions, EPA's claim that it lacked "information on the likely visibility impacts of the State's alternative program as compared to BART," 81 Fed. Reg. at 43897, is simply false and another contrived effort to support a particular result (SCR) when the BART Alternative shows greater reasonable progress. Even if the State had not provided such extensive analysis (which it did), EPA "retains a duty to examine key assumptions as part of its affirmative burden of promulgating and explaining a non-arbitrary, non-capricious rule." *Appalachian Power Co. v. EPA*, 135 F.3d 791, 818 (D.C. Cir. 1998). This burden is heightened when EPA's decision "runs counter to the evidence before the agency." *United States Sugar Corp. v. EPA*, No. 11-1108, 2016 WL 4056404, at *51 (D.C. Cir. July 29, 2016) (quoting *Motor Veh. Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983)). EPA's reliance on a lack of modeling data does not meet its burden. *See* 81 Fed. Reg. at 43898. EPA's determination that the "annual emissions comparison" metric is "inconclusive" based on an alleged lack of data about the impact of SO₂ emissions on visibility (as compared to NO_x emissions), is incorrect, unsupportable, and

contrary to both the State's determination and the enormous amounts of data in the possession of EPA. This is yet another reason PacifiCorp will prevail on the merits.

III.A.8. EPA arbitrarily changed its position in the Final Rule by improperly analyzing the impact of pre-FIP deadline emission reductions and resulting visibility improvements.

EPA illegally ignored data in the record and public comments about emissions reductions under the BART Alternative that occur before the BART installation deadline in EPA's FIP (sometimes referred to as "early" reductions in the record), and improperly changed its position between the Proposed and Final Rule about which of these reductions under the BART Alternative qualified for consideration in the reasonable progress analysis. In the Proposed Rule, EPA stated:

[R]eductions under the Utah BART Alternative will occur earlier than the BART Benchmark. The reductions under the Utah BART Alternative are required under the State SIP by August 2015 . . . and would provide an **early and on-going visibility benefit** as compared to BART. . . . BART likely would be fully implemented sometime between 2019 and 2021. Therefore, we recognize that the reductions from the BART Alternative would occur before the BART Benchmark.

81 Fed. Reg. at 2030 (emphasis added); *see also id.* at 2018 and 2023. On both sides of its Proposed Rule to potentially approve and disapprove the BART Alternative, EPA recognized "early and ongoing" emission reductions resulting under, and supporting the adoption of, the BART Alternative.⁹ These pre-FIP deadline emissions reductions included those from LNB/SOFA installations on all four Utah BART Units (as required by the Utah RH SIP), LNB/SOFA on an additional non-BART unit (Hunter Unit 3), and the shutdown of the two units at the Carbon plant. 81 Fed. Reg. at 2018.

However, in the Final Rule, EPA backtracked as follows:

[W]e have decided to consider only those emission reductions that occurred between 2006 and 2011 as lending weight to the argument that the Alternative will provide for greater reasonable progress.

RH RTC at 138. This means that between the Proposed Rule and the Final Rule, EPA decided to ignore the pre-FIP deadline emission reductions from the LNB/SOFA

⁹ As EPA explained when approving a previous Utah BART Alternative, early emission reductions weigh in favor of the BART Alternative when a "state implementation plan submittal may have already influenced sources to upgrade their plants before any case-by-case BART determination . . . may have required it." *WildEarth Guardians v. EPA*, 770 F.3d 919, 937 (10th Cir. 2014) (quoting EPA). EPA also has taken early emission reductions into account for other BART Alternatives. *See, e.g.*, 79 Fed. Reg. 46514 (using early emission reductions as justification for a BART Alternative FIP for the Navajo Nation); 77 Fed. Reg. 34801, 34804 (acknowledging early emission reductions made by Minnesota (Metropolitan Emission Reduction Program) to approve its proposed BART Alternative of the Cross State Air Pollution Rule).

installation at one of the Utah BART Units as well as those from the shutdown of the Carbon plant, even though it considered such reductions under all aspects of its Proposed Rule. Moreover, EPA further ignored all pre-FIP deadline emissions reductions already generated, and to be generated, under the BART Alternative between 2011 and 2021 (the BART installation date for the SCR systems under EPA's FIP). As a result, EPA purposely excludes hundreds of thousands of tons of emission reductions – and the resulting visibility benefits – achieved before the 2021 FIP compliance date.

EPA was fully aware of these reductions. In its public comment letter, PacifiCorp reported that 340,000 tons of emission reductions had occurred under the BART Alternative through 2014, and estimated that an additional 235,000 tons of added emissions reductions would occur through 2021, the FIP compliance deadline. RH RTC at 136-137 (*see* figure at 137). Contrary to EPA's decision to sweep some of these pre-FIP deadline emission reductions under the proverbial carpet for purposes of evaluating the BART Alternative, all of these emission reductions actually have occurred, or will occur based on currently installed controls and current unit closures, before emission reductions from BART would take place. This clearly means that all – not just some – of the pre-FIP deadline emission reductions should have been considered by EPA in evaluating the BART Alternative. *See* PacifiCorp Comments on Proposed Rule, March 14, 2016, Cover Letter/Executive Summary at 2; Full Comments at 16, 23. Not only did EPA fail to consider these reductions, EPA could not even bring itself to make its refusal clear in the Federal Register, only admitting the specifics in the RH RTC. EPA's refusal to consider all pre-FIP deadline emissions reductions is arbitrary and capricious because it failed to consider an "important aspect of the problem," and because its decision "runs counter to the evidence before the agency." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983).

In the RH RTC, EPA incorrectly claims that Utah only considered pre-FIP deadline emissions reductions through 2011 so that EPA is only required to do the same. RH RTC at 138. EPA, however, considers an isolated statement by Utah out of context. Both Utah and PacifiCorp provided EPA with information indicating that the pre-FIP deadline emissions commenced in 2006 and would provide "a corresponding early and on-going visibility improvement" until the BART compliance deadline, which EPA set in the FIP as 2021. Utah Staff Report at 1-13. *See also* PacifiCorp Comments on Proposed Rule, March 14, 2016, Cover Letter/Executive Summary at 2; Full Comments at 16, 23. Moreover, Utah clearly relied on the pre-FIP deadline emissions reductions from Carbon (2015 and beyond) and LNB/SOFA installed at Hunter 1 in 2014 when assessing other metrics (such as aggregate emissions reductions, etc.). *See* Staff Report at 1-12, Table 2 (projecting pre-FIP deadline emissions after 2011); and 1-30 (a full section outlining pre-FIP deadline emission reductions, including reductions after 2011). EPA's attempt to artificially limit the pre-FIP deadline reductions that Utah not only considered but relied upon infringes on Utah's statutory role to make value judgments when determining BART, and by extension a BART Alternative. Because EPA is overturning a state determination, its obligation to consider all of the information supporting that determination is high. *See* 42 U.S.C. § 7410(k)(3); *Texas v. EPA*, No. 16-60118 at *1 ("The structure of the Clean Air Act indicates a congressional preference that states, not EPA, drive the regulatory process."); *Minnkota Power Coop.*, 831 F. Supp. 2d at 1121

(D. N.D. 2011) (reversing EPA’s disapproval of a state CAA determination and holding that “[the State’s] conclusions regarding such highly technical matters are entitled to deference unless EPA proves them to be unreasonable, arbitrary, or capricious”).

In the end, EPA explained in the RH RTC that its decision not to consider hundreds of thousands of tons of pre-FIP deadline emission reductions caused it to give only “some weight to this metric but [to] not consider the timing of these reductions to be compelling.” RH RTC at 138. This pivotal announcement shifts consideration of the full effect of emission reductions occurring from 2006-2021 to a more limited effect from only those reductions that took place from 2006-2011. This is dramatic discounting of a key metric supporting the BART Alternative. *See id.* Again, because the decision to disapprove the BART Alternative was such a “close call,” any additional piece of favorable evidence should tip the balance towards approval of the Alternative. Because EPA purposefully refused to consider all evidence before the agency regarding pre-FIP deadline emissions reductions, EPA acted arbitrarily and capriciously; as a result, PacifiCorp will likely prevail on the merits.

III.A.9. EPA failed to adjust its FIP BART analysis after acknowledging a cost error of more than \$80 million in the Final Rule.

EPA’s admitted error of more than \$80 million (\$20 million per unit) in its required SCR cost analysis renders its BART decision arbitrary.¹⁰ Although ultimately acknowledging that the error existed in the Proposed Rule and that EPA relied upon the erroneous numbers to find SCR is cost-effective control equipment, EPA declines to conduct additional analysis to account or adjust for the error:

[W]e revised our analysis of the cost of installing and operating NO_x BART controls at the four subject-to-BART EGUs. . . . [W]e concluded it was unnecessary to review our analysis of visibility improvement or the other statutory BART factors. Our proposed action contains a full description of the five step BART analysis, the five BART factors [which include statutorily required cost analysis], and our proposed BART determination.

81 Fed. Reg. at 43902. The error impacts not only the assumed total capital costs for SCR, but also significantly increases the incremental cost-effectiveness for each unit by more than 20 percent. *See, e.g.*, 81 Fed. Reg. at 43904 (increasing incremental cost-effectiveness per ton for Huntington Unit 2 from \$4,877/ton in the Proposed Rule to \$6,368/ton (an additional \$1,132/ton), 81 Fed. Reg. at 2048, Table 36). Because these cost increases are expressed in dollars per ton, they represent millions of dollars in increased costs.

¹⁰ Compare, e.g., total capital costs from the Final Rule, 81 Fed. Reg. at 43903, Table 1 with the Proposed Rule, 81 Fed. Reg. at 2035, Table 14 (total capital investment for LNB/SOFA/SCR). Compare also Proposed Rule, 81 Fed. Reg. at 2039, Table 20; at 2042, Table 26; and at 2046, Table 32. Note also that several million dollars in total annual costs are also added for each unit in the Final Rule.

Contrary to its actions in the Final Rule, EPA may not simply forego an analysis of whether more than \$80 million in new costs would impact the appropriateness of SCR as BART. This increase in capital costs substantially increased both the average and incremental cost-effectiveness of each unit. These substantial increases changed the reasonableness of whether such controls should be required, and thus the changed figures should have been subject to public notice and comment.

While courts give EPA deference in matters subject to its expertise, they have also explained that “[w]e are hesitant to rubber-stamp EPA’s invocation of statistics without some explanation of the underlying principles or reasons why its formulas would produce an accurate result, particularly when the ‘facts found’ . . . demonstrate flaws in the formula.” *Nat’l Ass’n of Clean Water Agencies v. EPA*, 734 F.3d 1115, 1145 (D.C. Cir. 2013). EPA’s revised and much larger cost-effectiveness numbers, as well as much larger capital costs, should have caused EPA to seek public comment on the “reasonableness” of requiring such expensive controls, and to reject SCR as BART. PacifiCorp is likely to prevail on the merits of this issue.

III.B. PacifiCorp and Its Customers Will Suffer Irreparable Harm Without a Stay.

The compliance deadlines established in the Final Rule for installation of SCR place PacifiCorp in an untenable position. The installation of SCR at four units will be a massive construction effort requiring extensive planning, long-lead time engineering, and logistical coordination that will begin years before project completion and take several years to complete. PacifiCorp’s estimated cost of SCR construction and installation at the four Utah BART Units is in excess of \$700 million,¹¹ with a resultant increase in annual Operating & Maintenance costs in excess of \$150 million per year.

No mechanism exists for PacifiCorp to recover from EPA the SCR development costs incurred if the Final Rule is found to be invalid. *See Crowe & Dunlevy, P.C. v. Stidham*, 640 F.3d 1140, 1157 (10th Cir. 2011) (“Imposition of money damages that cannot later be recovered for reasons such as sovereign immunity constitutes irreparable injury.”) (citations omitted). Therefore, such SCR development costs constitute “irreparable injury.”

Finally, these SCR development costs are expected to be passed on to PacifiCorp’s customers in the form of higher electricity rates, as EPA admits. In the rulemaking docket, EPA provides an estimate (utilizing its estimated costs, which are lower than expected by PacifiCorp) that installation of SCR at the Utah BART Units will result in 5-10% higher electricity rates for PacifiCorp customers. RH RTC at 370. Higher electricity rates could have an even broader adverse economic impact on the citizens of Utah, as businesses look to pass their higher costs through to their customers. Financial losses have been found to constitute irreparable injury “where no adequate compensatory or other corrective relief will be available at a later date, in the ordinary course of litigation.” *Mexichem Specialty Resins, Inc. v. EPA*, 787 F.3d 555 (D.C. Cir.

¹¹ EPA claims costs of \$517 million.

2015) (citations omitted). In addition, consideration of rate increases caused by EPA-mandated control equipment was one of several factors found to support the recent stay of a Regional Haze FIP in Texas. *See Texas v. EPA*, No. 16-60118 at *18, notes 40-42.¹²

Thus, irreparable harm will result from continuation of the current effective date for EPA's FIP for the Utah BART Units.

III.C. The Balance of the Equities and the Public Interest Tip in PacifiCorp's Favor.

Neither EPA nor the regional haze program's overarching "visibility goals" will suffer any irreparable harm from a stay. Congress identified the purpose of the regional haze program as setting and achieving goals to achieve "natural visibility conditions by the year 2064." *See* 40 C.F.R. § 51.308(d)(1)(i)(B). Even if EPA's FIP for NO_x BART is ultimately upheld, Utah is ahead of its reasonable progress goals, without imposition of the FIP. *See, e.g.,* Utah Div. of Air Quality, Progress Report for Utah's State Implementation Plan for Regional Haze (May 18, 2015) at F10-F11, F-62 ("Utah Progress Report"). As established by the most recent data in Utah's 5-year progress report to EPA, Utah is meeting and surpassing its long-term visibility goals for all Class I areas in Utah. Utah Progress Report at F10-F11. Further, Utah reported that "the State of Utah has determined that the current implementation plan elements and strategies are sufficient . . . to meet all established reasonable progress goals." *Id.* at F-62. The SIP referred to in the State's progress report did not include EPA's FIP SCR requirement.

Moreover, EPA has already admitted that Utah is making reasonable progress towards the applicable Clean Air Act requirements. 77 Fed. Reg. at 74367 (Dec. 14, 2012) ("the State [of Utah] met all reasonable progress requirements for the Class I areas in Utah"). Granting a stay does not impede visibility improvement because the Utah BART Alternative already is in place. Moreover, EPA does not even require the emissions reductions under its FIP until 2021. In the meantime, the status quo continues, with Utah's reasonable progress goals being exceeded. *See* Final Rule at 43924/40 C.F.R. § 52.2336(d)(1) (setting an August 4, 2021 compliance deadline for installation of SCR on the Utah BART Units).

Utah's regional haze SIP and its permits for PacifiCorp's facilities have required action to reduce emissions earlier than EPA's FIP. 81 Fed. Reg. at 2030 ("The reductions under the Utah BART Alternative are required . . . by August 2015 . . . and would provide an early and on-going visibility benefit"); 77 Fed. Reg. at 74367-68 (EPA has found that Utah "met all reasonable progress requirements for the Class I areas in Utah" and the "two BART-eligible plants in central Utah are projected to decrease SO₂ emissions by 13,200 tons and NO_x emissions by 6,200 tons between 2002 and 2018. The State also shows that in general the impact from sources in Utah is not significant" at Class I areas in neighboring states.). Many of the visibility benefits from the BART

¹² *See also* EPA-cited FIPs for Hawaii (77 FR 61478, 61488 (Oct. 9, 2012)); Navajo Nation (77 FR 51620, 51625-51626 (Aug. 24, 2012)); and Arizona Apache Generating Station (77 FR 72512 (Dec. 5, 2012)), which EPA claims were situations where consideration of rate increases was an appropriate part of its BART analysis. RH RTC at 370, note 576.

Alternative are already being realized under Utah law, including the emission reductions from new control equipment and the shutdown of the Carbon plant (which were not contemplated when EPA made these statements). Thus even under a stay of EPA's FIP, the relevant Class I areas are still benefiting from these pre-FIP deadline emissions reductions required by the State's proposed RH SIP. This ensures that the Congressional objective for visibility improvement will not be inhibited even if EPA's FIP BART for NO_x is delayed or vacated.

An additional matter of public interest favoring a stay is the concentrated nature of employment impacts related to the Utah BART Units. In addition to higher costs of electricity for consumers, the compliance costs for the FIP may lead to the closure of facilities if PacifiCorp determines that the increased compliance costs do not justify continued operation of one or more units. The decision to shut units down or change to natural gas rather than install SCR has been a common result of EPA FIPs requiring SCR installation. *See, e.g., Arizona Apache Plant*, 80 Fed Reg 19220 (Feb. 27, 2015) (originally requiring SCR through an EPA FIP but changing to natural gas in subsequent SIP revision); *Arizona Cholla Plant*, 81 Fed Reg 46852 (July 19, 2016) (same); *Oregon Boardman Plant*, 76 Fed. Reg. 38997 (July 5, 2011) (requiring SCR in original state submittal to EPA but replacing with BART Alternative that requires cessation of burning coal by 2020 and only LNB/modified OFA). Because the Utah BART Units are all located within a nexus of small rural communities, the employment impacts from closure of even one unit will be significant for those communities. Emery County has been designated as a "Mining Dependent" county by the Department of Agriculture. USDA, Economic Research Service, *County Typology 2015*, *available at* <http://www.ers.usda.gov/data-products/county-typology-codes.aspx>. As stated by a local county commissioner, "The economic impact of the Hunter and Huntington Power Plants is a large portion of our economy in Emery County. The economic impact Rocky Mountain Power has had to Emery County in direct and indirect is 800+ jobs." *Part I: Commissioner Brady speaks at EPA hearing on regional haze*, Emery County Progress, Feb. 2, 2016.

Importantly, the Regional Haze Statute and the Regional Haze Rule do not address matters of public health. *See, Texas v. EPA*, 2016 WL 3878180 at *19, note 42 (finding public health benefits are not relevant to a stay consideration). Instead, the purpose of the regional haze program is to remedy anthropogenic contributions to visibility impairment in Class I areas. *See* 42 U.S.C. § 7491(a)(1). Thus, delaying the effective date of the Utah RH FIP is not related to public health. The area where the Utah BART Units are located is attaining the National Ambient Air Quality Standards for all criteria pollutants. Impacts from a stay would not present the type of risks to justify compelling immediate capital projects of inordinate cost that will disrupt the State's economy and PacifiCorp's electric generating operations with little or no visibility benefits. *See, e.g., Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1364 (Fed. Cir. 2002).

IV. Conclusion

If a stay is not entered, PacifiCorp will be forced to begin the planning, engineering and construction processes for SCR at the four Utah BART Units at significant cost. The actual costs of installing and operating SCR at the four units will approach one billion dollars, while EPA's projected improvement in visibility will be imperceptible at best, and actually lower than Utah's proposed BART Alternative. On the other hand, granting PacifiCorp's stay request will have no negative consequences on visibility while allowing well-justified further consideration of the Final Rule.

Based on the foregoing, EPA should grant PacifiCorp's Request for Reconsideration and Request for Administrative Stay.

Sincerely,



William K. Lawson
Director, Environmental Services
PacifiCorp
1407 W. North Temple
Salt Lake City, Utah 84116

cc: Blaine Rawson
Mike Jenkins



September 2, 2016

Via E-Mail and Federal Express

The Honorable Gina McCarthy
 Administrator, U.S. Environmental Protection Agency
 Ariel Rios Building
 1200 Pennsylvania Avenue, N.W.
 Washington, D.C. 20460
McCarthy.Gina@epa.gov

Shawn McGrath
 Region 8 Administrator
 U.S. Environmental Protection Agency
 1595 Wynkoop Street
 Denver, Colorado 80202
r8eisc@epa.gov

Attn: Docket ID No. EPA-R08-OAR-2015-0463

Re: Request for Reconsideration and Request for Administrative Stay of EPA's Final Rule: "Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze; Final Rule."

Dear Administrators McCarthy and McGrath:

Utah Associated Municipal Power Systems ("UAMPS") respectfully requests that the U.S. Environmental Protection Agency ("EPA") reconsider and grant an immediate administrative stay of the compliance deadline and toll the effective date of certain requirements in the EPA's final rule cited above, published at 81 Fed. Reg. 43,894 (July 5, 2016), ("Final Rule"). Specifically, UAMPS requests EPA reconsider and administratively stay the best available retrofit technology ("BART") requirements related to nitrogen oxide (NO_x) emission control equipment ("BART NO_x FIP") at the Hunter power plant Unit 2 ("Hunter Unit 2") and other affected units. UAMPS also requests EPA reconsider its disapproval of Utah's regional haze state implementation plan.



UAMPS

UAMPS is a political subdivision of the State of Utah whose membership consists of 45 municipal and other community-owned electric utilities located in Utah, Nevada, New Mexico, Idaho, Wyoming, California, and Oregon. Most UAMPS members own and operate a local electric utility system that provides integrated retail electric service to residential, commercial, and industrial customers. UAMPS partners with its members to ensure that electricity is affordable and reliable.

UAMPS currently manages 17 separate projects that provide power supply, transmission, and other services to participating members. One of these projects is UAMPS part ownership in Hunter Unit 2. In addition to owning interests in or directly operating power plants and other sources of electrical power, UAMPS and its members regularly purchase power off the grid, and are, therefore, sensitive to market and regulatory forces that impact electricity affordability and reliability.

UAMPS submitted comments in the above referenced Docket on March 14, 2016 to the EPA's proposed rule, entitled "Approval Disapproval and Promulgation of State Implementation Plans; State of Utah; Regional Haze Rule Requirements for Mandatory Class I Areas," published at 81 Fed. Reg. 2004 (January 26, 2016), ("Proposed Rule").

UAMPS Interest in the Hunter Unit 2

The Hunter 2 Unit is a 430 MW coal-fired electric generating unit located in Emery County that is jointly owned by PacifiCorp, UAMPS and Deseret Generation & Transmission Co-operative and operated by PacifiCorp in conjunction with two other coal-fired units with a combined generating capacity of approximately 1472 MW.

UAMPS owns an undivided 14.582% ownership interest in Hunter Unit 2, which represents approximately 63 MW of generating capacity for UAMPS and its participating Members. Annually, this represents approximately 552,246 MWh hours. Twenty-three UAMPS Members participate in the Hunter Unit 2 project. These members consist of small municipalities and other community-owned public electric utilities. These participating members are all small, serving an average of 4,247 customers, and have populations less than 50,000.



Utah Associated Municipal Power Systems



UAMPS Joins PacifiCorp's Arguments in Support of Reconsideration and Stay

PacifiCorp also submitted a Request for Reconsideration and Request for Administrative Stay of EPA's Final Rule on September 2, 2016 ("PacifiCorp's Request"), a copy of which is attached hereto as Attachment A. UAMPS supports PacifiCorp's Request.

For purposes of this Request and to the extent consistent with UAMPS' partial ownership interest in Hunter Unit 2, UAMPS hereby adopts and incorporates as though fully set forth herein, the arguments set forth in PacifiCorp's Request in support of reconsideration and stay of the Final Rule.

Additionally, UAMPS states, consistent with its partial ownership interest in Hunter Unit 2, if the requested stay is not granted UAMPS will be subject to substantial costs for the selective catalytic reduction ("SCR") system required under the BART NO_x FIP for Hunter Unit 2—expenditures that would be wholly unnecessary if UAMPS' legal challenges to the BART NO_x FIP are successful. Because these legal challenges are based on sound legal principles and are likely to succeed on the merits, and because a stay is in the public interest and necessary to prevent irreparable harm to UAMPS, its members and customers, EPA should grant UAMPS' stay request. In contrast, no significant harm will result to either EPA or the public from a stay of the Final Rule – particularly because many of the emission reductions and resulting visibility improvements contemplated under the Final Rule already are in place as required by the Utah SIP, and the Final Rule does not require further emission reductions until 2021.

As set forth in PacifiCorp's Request, PacifiCorp and UAMPS are likely to succeed on the merits because the BART NO_x FIP is contrary to applicable law. EPA improperly rejected the State of Utah's regional haze state implementation plan ("Utah RH SIP"). EPA failed to conduct an adequate statutory five-factor BART analysis to justify SCR for the Utah BART Units. EPA has taken contradictory positions regarding the results of the BART analysis it did conduct. EPA's analysis and BART NO_x FIP disregard the Congressional mandate that states have the primary role in designing regional haze programs and undermine the State of Utah's goal of improving visibility at a reasonable and responsible pace without causing unnecessary economic distress from higher electricity rates. EPA's rejection of the Utah RH SIP and imposition of the BART NO_x FIP are also inconsistent with EPA's BART determinations in other states.

UAMPS thus joins PacifiCorp's Request and requests EPA to grant an immediate stay of the BART NO_x FIP and to reconsider its rejection of the Utah RH SIP and BART Alternative.



Utah Associated Municipal Power Systems



Sincerely,

A handwritten signature in black ink, appearing to read "Mason Baker", with a long horizontal flourish extending to the right.

Mason Baker
Chief Legal Officer & General Counsel
Utah Associated Municipal Power Systems

Enclosure: Attachment A—PacifiCorp's Request

Message

From: Gavin Gretter [Gavin.Gretter@TrilliumCNG.com]
Sent: 5/18/2017 1:59:03 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Thank you

Mandy:

Thank you very much for taking the time to meet with NATSO members this week. We really appreciated the opportunity to discuss the RFS and Point of Obligation issues with you.

Please let me know if I can ever answer any questions or provide any additional information about RNG or cellulosic production generally.

I am also happy to share with you our investigations to date into providing higher ethanol blends at our stores. We have checked and revisited the opportunity several times in the last few years, and each time we have found that the cost of implementation, the opportunity cost at our stores, and our customers' dislike of the fuel confirm that it is not a good business for us to enter.

The decision had nothing to do with our current RIN length: we made the decision a year ago to get into Renewable Natural Gas (thus creating a D3 RIN position for our enterprise) because our customers wanted the fuel.

Best regards,

Gavin Gretter
General Manager – RNG
Trillium CNG
DD: +1 713 332 4818
Cell: +1 917 597 4605
Gavin.Gretter@TrilliumCNG.com

Love's Travel Stops & Country Stores, Inc.

From the Love's Family of Companies: This email neither constitutes an agreement to conduct transactions by electronic means nor creates or amends any legally binding contract or enforceable obligation in the absence of a fully signed written contract authorizing the same. This email, and any attachments and/or documents linked to this email may contain confidential and/or proprietary information and are nonetheless intended to be viewed and used legally by the individual(s) to whom addressed. Please immediately delete from your system any email you receive from us in error. Any views or opinions in this email or any attachment are solely those of the author and do not necessarily represent those of our companies.

Message

From: Ron Minsk [Personal Email / Ex. 6]
Sent: 5/30/2017 3:58:27 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Dominguez, Alexander [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5ced433b4ef54171864ed98a36cb7a5f-Dominguez,]; Dravis, Samantha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ece53f0610054e669d9dffe0b3a842df-Dravis, Sam]
Subject: Re: Request to Meet About the RFS

My cell is [Personal Phone / Ex. 6]

Sent from my iPhone

> On May 30, 2017, at 11:56 AM, Ron Minsk <rminsk@earthlink.net> wrote:
>
> I am downstairs. Phone call is going
> To voice Mail.

Message

From: David Fialkov [dfialkov@natso.com]
Sent: 5/17/2017 6:29:42 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: Meeting at 2:30 tomorrow

Cool. We are in conference room. Thanks.

On Wed, May 17, 2017 at 12:00 PM David Fialkov <dfialkov@natso.com> wrote:

Will do. We are coming with a few more folks than I thought doing my best to narrow it down.

On Tue, May 16, 2017 at 11:16 PM Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Hi David,
 Please call 202- 564-1016 for an escort up.
 Best,
 Mandy

Sent from my iPhone

On May 16, 2017, at 10:57 PM, David Fialkov <dfialkov@natso.com> wrote:

Mandy,

We very much look forward to meeting with you and your team tomorrow (Wednesday) afternoon. Is there a phone number I should call when we arrive or can I just give the folks at the security desk your name and they will handle from there?

Again appreciate you fitting us in with such a busy schedule.

--

David H. Fialkov
 Vice President, Government Relations
 Legislative and Regulatory Counsel
 NATSO, Representing America's Travel Centers and Truckstops
dfialkov@natso.com
 (703) 739 - 8501

--

David H. Fialkov
 Vice President, Government Relations
 Legislative and Regulatory Counsel
 NATSO, Representing America's Travel Centers and Truckstops
dfialkov@natso.com
 (703) 739 - 8501

--

David H. Fialkov
 Vice President, Government Relations
 Legislative and Regulatory Counsel
 NATSO, Representing America's Travel Centers and Truckstops
dfialkov@natso.com
 (703) 739 - 8501

Message

From: Kirk Blalock [kblalock@fiercegr.com]
Sent: 5/31/2017 1:48:23 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Greenwalt, Sarah [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6c13775b8f424e90802669b87b135024-Greenwalt,]
Subject: Re: ?

Thanks!

Sarah - I have the head of sustainability for Coca-Cola in town next week and he wanted to visit with someone. Would that be you?

Kirk

From: Gunasekara, Mandy <gunasekara.mandy@epa.gov>
Sent: Wednesday, May 31, 2017 9:35 AM
Subject: RE: ?
To: Kirk Blalock <kblalock@fiercegr.com>
Cc: Greenwalt, Sarah <greenwalt.sarah@epa.gov>

Sarah Greenwalt (cc'd) is the best point of contact.

From: Kirk Blalock [Kirk Blalock [<mailto:kblalock@fiercegr.com>]]
Sent: Wednesday, May 31, 2017 9:14 AM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: ?

Who in the Admin office would work on sustainability issues re water? Thanks, Kirk

Message

From: Gunasekara, Surya [Surya@mail.house.gov]
Sent: 5/12/2017 10:51:09 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Fwd: President Donald J. Trump Announces Key Additions to his Administration

Surya G. Gunasekara
Chief of Staff

Congressman Renacci (OH-16)

Sent from my iPhone

Begin forwarded message:

From: White House Press Office <whitehouse-noreply@useopwh.service.govdelivery.com>
Date: May 12, 2017 at 6:11:48 PM EDT
To: <surya@mail.house.gov>
Subject: President Donald J. Trump Announces Key Additions to his Administration
Reply-To: <whitehouse-noreply@useopwh.service.govdelivery.com>

THE WHITE HOUSE
Office of the Press Secretary

FOR IMMEDIATE RELEASE
May 12, 2017

President Donald J. Trump Announces Intent to Nominate Personnel to Key Administration Posts

President Donald J. Trump today announced his intent to nominate the following individuals to key positions in his Administration:

Susan Parker Bodine of Maryland to be an Assistant Administrator of the Environmental Protection Agency, Enforcement and Compliance Assurance. Ms. Bodine is Chief Counsel for the Senate Committee on Environment and Public Works, a position she has held since January 2015. Ms. Bodine's nearly 29 years of environmental law experience includes both government service and private practice. Ms. Bodine served in the George W. Bush administration as the assistant administrator of the Environmental Protection Agency's Office of Solid Waste and Emergency Response. Prior to that, Ms. Bodine was staff director and counsel for the Subcommittee on Water Resources and Environment of the House Committee on Transportation and Infrastructure. She also was an associate at Covington & Burling and a partner at Barnes & Thornburg. Ms. Bodine's undergraduate degree is from Princeton University and her law degree is from the University of Pennsylvania School of Law.

Brian D. Quintenz of Ohio to be a Commissioner of the Commodity Futures Trading Commission for the remainder of a five-year term expiring April 13, 2020. Mr. Quintenz was the Founder, Managing Principal,

and Chief Investment Officer of Saeculum Capital Management LLC from November 2013 to November 2016. Before holding that position, Mr. Quintenz was a consultant with Rose International from June 2013 until November 2013. Prior to this, he worked at Hill-Townsend Capital LLC from 2009 to 2012, first as an Analyst and then as the Senior Associate. Mr. Quintenz served in the office of U.S. Representative Deborah Pryce from 2001 to 2007, first as a Staff Assistant, then a Legislative Assistant, and finally Senior Policy Advisor. Mr. Quintenz received a B.S. from Duke University and an M.B.A. from Georgetown University's McDonough School of Business.

James J. Sullivan, Jr. of Pennsylvania to be a Member of the Occupational Safety and Health Review Commission. Mr. Sullivan has 37 years of experience representing employers throughout the United States in matters involving labor, employment, and occupational safety and health law. He has been a partner at Pepper, Klett Rooney and, most recently, Buchanan Ingersoll and Rooney. From 2014 to 2017, Mr. Sullivan served as the management co-chair of the Occupational Safety and Health Law Committee of the American Bar Association's Labor Law Section. He received a BA from The Pennsylvania State University and a JD from The Georgetown University Law Center.

Brooks D. Tucker of Maryland to be an Assistant Secretary of Veterans Affairs, Congressional and Legislative Affairs. Mr. Tucker currently serves as a Senior Adviser to the Secretary of Veterans Affairs. He previously served as a policy adviser on the Presidential Transition Team and as Senior Policy Adviser, National Security, and Veterans' Affairs for Senator Richard Burr. Prior to his government service, Mr. Tucker was an investment adviser with Deutsche Bank and Merrill Lynch. He is a retired Lieutenant Colonel and infantry officer in the United States Marine Corps. Mr. Tucker received his Bachelor of Arts in English Language and Literature from the University of Maryland.

President Donald J. Trump Announces Intent to Appoint William Ellison Grayson to the Board of Directors of the Presidio Trust

President Donald J. Trump today announced his intent to appoint William Ellison Grayson of California to be a Member of the Board of Directors of the Presidio Trust (S.F. Bay Area Rep.).

###

[Unsubscribe](#)

The White House · 1600 Pennsylvania Avenue, NW · Washington DC 20500 · 202-456-1111

Message

From: Stephen Aaron [saaron@mercuryllc.com]
Sent: 5/11/2017 12:50:12 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: Strange Sequence of Events

Will do. Thanks Mandy.

.....
Mercury.

Stephen Aaron
 Senior Vice President
 300 Tingey Street SE | Suite 202
 Washington, DC | 20003
www.mercuryllc.com

On May 10, 2017, at 10:25 PM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Hey Stephen,
 Sorry for delayed response. Give me a call tomorrow at 9:30 am. My direct is Personal Phone / Ex. 6
 Best,
 Mandy

Sent from my iPhone

On May 10, 2017, at 3:11 PM, Stephen Aaron <saaron@mercuryllc.com> wrote:

Mandy, just wanted to check back in with you and see if you had a couple quick minutes for us to talk prior to Monday.

Didn't see you last night at the party??

Talk soon.

.....
 Stephen Aaron
 Senior Vice President
 300 Tingey Street SE | Suite 202
 Washington, DC | 20003
www.mercuryllc.com

> On May 8, 2017, at 4:45 PM, Stephen Aaron <saaron@mercuryllc.com> wrote:
 >
 > <Scott Pruitt Letter.pdf>
 > <John D Dunlap Bio.docx>

This email is intended only for the person or entity to which it is addressed and may contain information that is privileged, confidential or otherwise protected from disclosure. Dissemination, distribution, or copying of this email or the information herein by anyone other than the intended recipient, or an employee or agent

responsible for delivering the message to the intended recipient, is prohibited. If you have received this email in error, please immediately notify us by calling our Network Operations Center at +1 855 237 8324.

Message

From: Rob Underwood [runderwood@pmaa.org]
Sent: 5/12/2017 2:53:46 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Thanks again

Hi Mandy,

I tried you this morning. Would you be available to chat at 2:30?

Thanks, Rob

-----Original Message-----

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Wednesday, May 10, 2017 9:56 PM
To: Rob Underwood
Subject: Re: Thanks again

Yes- my direct is **Personal Phone / Ex. 6**

Sent from my iPhone

> On May 10, 2017, at 4:23 PM, Rob Underwood <runderwood@pmaa.org> wrote:

>

> Mandy, it was great catching up. I might have one more question for you. Would it be possible if I can call you Friday morning? It will take 3 mins! I promise.

>

> Best of luck with the new job!

>

> Take care,

>

> Rob

>

> Sent from my iPhone

Message

From: KUNZ David [david.kunz@arkema.com]
Sent: 5/18/2017 5:45:46 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: KARPMAN Allen [allen.karpman@arkema.com]; Washington, Valerie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9d031c02ce3a416dad0d421ee998d5a3-VWASHING]
Subject: RE: Arkema - short meeting?

Mandy, Valerie,

Many thanks. We know you have a lot on your plates, and, so, we very much appreciate a few minutes of your time next week

In addition to Allen Karpman and myself, Rebecca Bernstein, our Senior Director, Product Safety and Regulatory Affairs, may also join if the schedule can line up.

Our availability next week is the following:

- Tuesday, May 23 – 2 pm or later
- Wednesday, May 24 – all day

Thanks and look forward to setting up a short meeting.

David

David E. Kunz
Arkema Inc.
Office: (202) 263-3491
Cell: (202) 257-1115
david.kunz@arkema.com
www.arkema.com



This e-mail, attachments included, may contain information that is confidential and/or privileged and/or proprietary to the Arkema Group or third party. It may only be used for its intended purpose. If you are not the intended recipient, please advise the sender by return and delete this e-mail without reading, copying nor distributing it. Thank you.

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Thursday, May 18, 2017 11:49 AM
To: KUNZ David <david.kunz@arkema.com>
Cc: KARPMAN Allen <allen.karpman@arkema.com>; Washington, Valerie <Washington.Valerie@epa.gov>
Subject: Re: Arkema - short meeting?

Hi David, happy to meet. I'll also include our new chemicals person to provide info on TSCA.

Valerie, Can you please set up a meeting with David for sometime next week. Can you also invite Nancy Beck from EPA.

Sent from my iPhone

On May 18, 2017, at 10:22 AM, KUNZ David <david.kunz@arkema.com> wrote:

RESTRICTED

PRIVILEGED AND CONFIDENTIAL
ATTORNEY-CLIENT COMMUNICATION
ATTORNEY WORK PRODUCT

Mandy,

Hi. I just wanted to touch base and follow-up with you on an earlier e-mail to see if you might be available next week for a short meeting with myself and my colleague, Allen Karpman, to briefly discuss the EPA SNAP rules and TSCA.

Would you have any availability for either of the dates/times below?

- Tuesday, May 23 – 2 pm or later
- Wednesday, May 24 – all day

Many thanks for your consideration and hope that we might be able to visit with you briefly next week if your schedule allows.

David

David E. Kunz
Arkema Inc.
Office: (202) 263-3491
Cell: (202) 257-1115
david.kunz@arkema.com
www.arkema.com

<image001.png>

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From: KUNZ David
Sent: Friday, May 05, 2017 1:26 PM
To: 'gunasekara.mandy@epa.gov' <gunasekara.mandy@epa.gov>
Cc: KARPMAN Allen <allen.karpman@arkema.com>
Subject: Arkema - short meeting?

Mandy,

Hello and congratulations on your new position at EPA -- hope all is going well.

We previously met with you when you were at the Senate Environment and Public Works Committee, and I wanted to see if you might have some time, again, to meet with us in your new capacity. My colleague, Allen Karpman, will be in DC later this month and we would be greatly appreciative for an opportunity to have a short meeting with you. Our main topics of interest are the EPA SNAP regulations and general TSCA implementation.

I will throw out the following possible dates for consideration and to see if any of these might work for you (Allen Karpman will be in DC on these dates):

- Monday, May 22 – 3:30 pm or later
- Tuesday, May 23 – 1 pm or later

- Wednesday, May 24 – all day
- Thursday, June 1 - morning

Hope one of the above dates/times might work for you for a short meeting (and, if none of the above work, please let me know and we can look at some other dates).

Many thanks for your consideration – hope you have a good weekend.

David

David E. Kunz

Arkema Inc.

Office: (202) 263-3491

Cell: (202) 257-1115

david.kunz@arkema.com

www.arkema.com

<image001.png>

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Message

From: Williams, Brendan [Brendan.Williams@pbfenergy.com]
Sent: 5/26/2017 6:45:50 PM
To: Dravis, Samantha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ece53f0610054e669d9dffe0b3a842df-Dravis, Sam]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Kime, Robin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ef7b76087a6475b80fc984ac2dd4497-RKime]
Subject: DE Governor Letter on RFS POOB
Attachments: OGOV Letter to EPA - Point of Obligation - 5.25.2017.pdf

I hope you are all doing well. I wanted to make sure you received a copy of the attached letter that Governor Carney sent Administrator Pruitt in support of moving the RFS Point of Obligation. I hope you have a great holiday weekend!

Regards,

Brendan Williams
Government Relations
PBF Energy
601 Pennsylvania Avenue, NW
Suite 900 South
Washington, DC 20004
O: (202) 434-8254
M: (703) 863-6825
brendan.williams@pbfenergy.com
www.pbfenergy.com



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Message

From: Birsic, Michael J. (MPC) [mjbirsic@marathonpetroleum.com]
Sent: 6/2/2017 12:33:23 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RMP

Hey Mandy,

I wanted to circle back with you on RMP and to see if you could put me in touch with whoever is running point on that issue. If it is you (that would be great), we would love to come in and sit down with you on an idea on RMP.

Mike

-----Original Message-----

From: Birsic, Michael J. (MPC)
Sent: Friday, May 19, 2017 1:36 PM
To: Mandy Gunasekara
Subject: RMP

Hey Mandy,

Hope you are well. **Personal Matters / Ex. 6**

Do you know who is handling RMP for the Agency? We wanted to bring some of our folks in to visit in the next couple weeks and we have some ideas that maybe helpful to the agency in regards to RMP.

Thanks for pointing me in the right direction.

Mike

Message

From: Matt Ogren [MOgren@insightwebpoll.com]
Sent: 5/16/2017 2:14:58 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Reminder: please share your thoughts, TradeMarks 2017

Hello Amanda Gunasekara,

I am contacting you to follow-up on our previous invitation to participate in a study that will shed light on how Washington, D.C. professionals view certain institutions operating here in DC. I recognize your time is valuable and that these invitations can get lost in the shuffle, but I believe that you will find the topic interesting and encourage you to participate in the survey.

In appreciation for your time we will send you an advance copy of the study's executive summary. Additionally, APCO is making a \$1,000 charitable contribution to each of five charities selected by individuals completing the survey.

We are only contacting a select number of individuals and hope you will take the time to share your views. The online survey is easy to complete; it will only take about 15 minutes of your time.

To complete the survey online, please click on the button below.

START NOW

Alternatively, you can copy and paste the following URL into your internet browser:

<http://www.insightwebpoll.com/association2017&p=E4754>

Rest assured, this survey is completely confidential; your name and affiliation will not be reported with the responses you provide, and we recognize that you are sharing your personal opinions and not those of any organization.

Every voice is very important. We hope you will set aside about 15 minutes to complete this online survey today, or to speak with our representative when he or she calls; we realize that your time is very valuable and sincerely appreciate you taking the time to participate in this important survey.

Should you have any questions or difficulties completing this survey, please feel free to contact me.

Thank you for your participation,

Matt Ogren
Study Director

5086 List Drive, Colorado Springs, CO 80919

[Unsubscribe](#)

Message

From: Rozsa, Gabe [Gabe.Rozsa@prime-policy.com]
Sent: 6/8/2017 1:37:58 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: DERA

Mandy,

I see that the Administrator is testifying next week in front of House Interior and likely will be in front of other committee's as well. Would you have a minute to chat today or tomorrow about DERA in the context of the budget hearings?

Gabe

Gabe Rozsa
Managing Director
1110 Vermont Avenue, NW | Suite 1000 | Washington, DC 20005
202 530 4843 | Fax: 202 530 4800 | Cell: 202 701 7710
www.prime-policy.com



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E. SCOTT PRUITT
ADMINISTRATOR

May 9, 2017

MEMORANDUM

SUBJECT: Revisions to CERCLA Delegations of Authority 14-2 Responses and 14-21A Consultations, Determinations, Reviews and Selection of Remedial Actions at Federal Facilities

FROM: E. Scott Pruitt

A handwritten signature in black ink, appearing to read "E. Scott Pruitt", is written over the "FROM:" line.

TO: Assistant Administrator
Office of Land and Emergency Management

Regional Administrators

The Superfund program is a vital function of the U.S. Environmental Protection Agency, and under my administration, Superfund and the EPA's land and water cleanup efforts will be restored to their rightful place at the center of the agency's core mission. As such, in order to facilitate the more-rapid remediation and revitalization of contaminated sites and to promote accountability and consistency in remedy selection, I have issued the accompanying revised CERCLA delegation of authority. With this revised delegation, authority previously delegated to the Assistant Administrator for Office of Land and Emergency Management and the Regional Administrators to select remedies estimated to cost \$50 million or more at sites shall be retained by the Administrator.

The purpose of these revisions is to improve the remedy selection process and to involve the Administrator and the Administrator's office in this process more directly. In light of this revised delegation, please take all necessary steps to adjust associated consultations, reviews and other practices in a manner consistent with the revised delegation. As part of effectuating this adjustment to the remedy selection process, I ask that you involve the Administrator's Office early on and throughout the process of developing and evaluating alternatives and remedy selection. This is particularly important for sites where you anticipate that the preferred remedial alternative and/or the remedy selected in the Record of Decision will be estimated to cost more than \$50 million and thus will require the Administrator's approval and signature on the Record of Decision. It is through this enhanced cooperation and continuous involvement that we will work to revitalize this essential agency effort while enhancing consistency in remedy selection across states and the regions.

1200 PENNSYLVANIA AVE. NW • MAIL CODE 1101A • WASHINGTON, DC 20460 • (202) 564-4700 • FAX: (202) 501-1450

Please consult the revised delegations for additional information. The revised delegations are effective immediately.

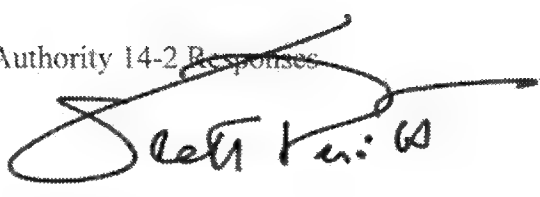


E. SCOTT PRUITT
ADMINISTRATOR

May 9, 2017

MEMORANDUM

SUBJECT: Delegation of Authority 14-2 Responses

FROM: E. Scott Pruitt 

TO: Assistant Administrator
Office of Land and Emergency Management

Regional Administrators

14-2. Responses (1200 TN 531)

1. AUTHORITY.

To respond to any release or threatened release of a hazardous substance, pollutant or contaminant pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, Section 104, and 40 CFR Part 300, "National Oil and Hazardous Substances Pollution Contingency Plan."

2. TO WHOM DELEGATED.

- a) The Administrator reserves the authority to select the remedy in the Record of Decision when the estimated cost of the remedy exceeds \$50 million. The Administrator may delegate this authority to the Deputy Administrator and no further.
- b) All other authorities are delegated to the assistant administrator for the Office of Land and Emergency Management and regional administrators.

3. LIMITATIONS.

- a) These authorities shall be exercised subject to approved funding levels.
- b) Regional Administrators may exercise these authorities only at sites located within their respective regions, unless there is a memorandum of agreement that authorizes cross-boundary emergency response.
- c) Regional Administrators may select a response action. Consultation prior to selection may be required by memorandum from the AA OLEM.

- d) Unless waived by memorandum, the AA OLEM must approve the use of the consistency waiver in Section 104(c) (1)(C) of CERCLA for removal actions at sites not proposed to or final on the National Priorities List.
- e) When the emergency waiver in Section 104(c)(1)(A) is used, regional administrators may approve removal actions costing up to \$6 million. Regional administrators must seek approval from the AA OLEM for removal actions costing more than \$6 million and requiring the emergency waiver. This limitation may be waived or modified by memorandum from the AA OLEM.
- f) Unless waived by memorandum, the AA OLEM must concur prior to the initiation of a removal action at non-NPL sites where the proposed action is on the List of Nationally Significant or Precedent-Setting Removal Action categories.

4. REDELEGATION AUTHORITY.

- a) The AA OLEM may redelegate these authorities to the office director level, or equivalent, and no further.
- b) Regional administrators may redelegate these authorities to the branch chief level, or equivalent, and no further.
- c) Regional administrators may redelegate to designated On-Scene Coordinators the authority to determine the need for emergency response and to approve and initiate removal actions costing up to \$250,000 where site conditions constitute an emergency and up to \$50,000 where site conditions do not constitute an emergency.
- d) An official who redelegates an authority retains the right to exercise or withdraw the authority. Redelegated authority may be exercised by any official in the chain of command to the official to whom it has been specifically redelegated.

5. ADDITIONAL REFERENCES.

- a) CERCLA, Sections 101(23), 101(24), 105, 113, 116, 117, 118, 120, 121 and 126(b).
- b) 40 CFR 35, Subpart O, "Cooperative Agreements and Superfund State Contracts for Superfund Response Actions."
- c) EPA Delegation 14-1, Superfund State Contracts and Cooperative Agreements.
- d) EPA Delegation 14-17, National Priorities List.
- e) EPA Delegation 14-22, Response Action Administrative Record.
- f) EPA Delegation 14-30, Acquisition of Property.
- g) Limited Contracting Officer Warrant Authority issued to designated OSCs.
- h) "Use of Non-Time-Critical Removal Authority in Superfund Response Actions," OSWER Directive 9360.0-40P, February 14, 2000, specifying the director, Office of Emergency and Remedial Response/OLEM will consult with the Director, Office of Site Remediation Enforcement/Office of Enforcement and Compliance Assurance prior to concurring on any engineering evaluation/cost analysis approval memorandum for a Fund-lead action that could exceed \$6 million.
- i) All other directives, policy and guidance issued by OLEM and OECA pertaining to response and consultation requirements.



E. SCOTT PRUITT
ADMINISTRATOR

May 9, 2017

MEMORANDUM

SUBJECT: Delegation of Authority 14-21A Consultations, Determinations, Reviews and Selection of Remedial Actions at Federal Facilities

FROM: E. Scott Pruitt

TO: Assistant Administrator
Office of Land and Emergency Management

Regional Administrators

14-21A. Consultations, Determinations, Reviews and Selection of Remedial Actions at Federal Facilities (1200 TN 539)

1. AUTHORITY.

Pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, as amended: to consult with agencies, departments and instrumentalities regarding investigations and studies of federal facilities under Section 120(e)(1); to review the plans for and results of such investigations and studies under Section 120(e)(2); to select remedial actions under Section 120(e)(4); and to determine under Section 120(e)(6) that remedial investigations and feasibility studies or remedial action will be done properly at a federal facility by another potentially responsible party within the deadlines provided in Section 120(e)(1), (2) and (3).

2. TO WHOM DELEGATED.

- a. The Administrator reserves the authority for purposes of Section 120(e)(4) to select the remedy in the Record of Decision when the estimated cost of the remedy exceeds \$50 million. The Administrator may delegate this authority to the Deputy Administrator and no further.
- b. All other authorities are delegated to the assistant administrator for the Office of Land and Emergency Management and regional administrators.

3. LIMITATIONS.

Consultation prior to selection of a remedial action may be required by memorandum from the AA OLEM.

4. REDELEGATION AUTHORITY.

- a. The AA OLEM may redelegate these authorities to the director, Federal Facilities Restoration and Reuse Office, and no further.
- b. Regional administrators may redelegate these authorities to the branch chief level, or equivalent, and no further.
- c. An official who redelegates an authority retains the right to exercise or withdraw the authority. Redelegated authority may be exercised by any official in the chain of command to the official to whom it has been specifically redelegated.

5. ADDITIONAL REFERENCES.

- a. 40 CFR Part 300, "National Oil and Hazardous Substances Pollution Contingency Plan."
- b. EPA Delegation of Authority 14-2, Response.
- c. EPA Delegation of Authority 14-21-B, Agreements with Other Federal Agencies.
- d. EPA Delegation of Authority 14-40, Evaluation of Approved Remedial Design.

Message

From: Paul Cicio [pcicio@carbonleaf.net]
Sent: 6/2/2017 12:29:22 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: IECA's Press Release on Trump Paris Climate Accord Decision
Attachments: 06.02.17_Paris Climate Accord Press Release.pdf

Importance: High

Hi Mandy,
Attached is our press release on the Accord. Please reroute to others who value the manufacturing point of view.

Please note that we highlight NSR as a barrier to reducing GHG emissions.

With kind regards,

Paul Cicio
President
Industrial Energy Consumers of America
1776 K Street, NW, Suite 720
Washington, DC 20006
(O) 202-223-1661
(C) 703-216-7402
www.ieca-us.org

The Industrial Energy Consumers of America is a nonpartisan association of leading manufacturing companies with \$1.0 trillion in annual sales, over 2,300 facilities nationwide, and with more than 1.6 million employees worldwide. It is an organization created to promote the interests of manufacturing companies through advocacy and collaboration for which the availability, use and cost of energy, power or feedstock play a significant role in their ability to compete in domestic and world markets. IECA membership represents a diverse set of industries including: chemical, plastics, steel, iron ore, aluminum, paper, food processing, fertilizer, insulation, glass, industrial gases, pharmaceutical, building products, automotive, brewing, independent oil refining, and cement.

Message

From: Fields, Jay [Jay.Fields@mail.house.gov]
Sent: 5/8/2017 9:42:43 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Quick Chat/Coffee?

Hi Mandy,

Congrats on the new job at EPA. I hope you are settling in well.

I just wanted to reach out to you to see if you had time to grab a coffee either tomorrow or Wednesday to chat. I'm really just interested to learn how things are going so far with the EPA and new administration. I have a land use and environmental law background, so I'd be pretty happy if I had a few minutes to spare. I could come by your office or meet up (I think Trump hotel has a starbucks), whatever is easiest for you.

Hope to talk soon.

Jay Fields
Legislative Director & Counsel
The Honorable Mark Sanford
Jay.Fields@mail.house.gov
Office: 202-225-3176
Direct: 69394

Message

From: Smith, Robert L. [RLSmithII@Venable.com]
Sent: 5/17/2017 6:02:40 PM
To: Wagner, Kenneth [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=048236ab99bc4d5ea16c139b1b67719c-Wagner, Ken]
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: R5 Issue

Thanks! I will be there tomorrow with my colleague Kathryn Floyd and Brad Moore from PolyMet.

From: Wagner, Kenneth <wagner.kenneth@epa.gov>
Sent: Tuesday, May 16, 2017 5:56:06 PM
To: Smith, Robert L.
Cc: Gunasekara, Mandy
Subject: Re: R5 Issue

Yes...I can do 5-5:30pm in my office. Come to the North Entrance by the Federal Triangle Metro Stop and I will come get you. My room # is 3309

Please confirm.

Ken

Kenneth E. Wagner
Senior Advisor to the Administrator
For Regional & State Affairs
US Environmental Protection Agency
 Office: 202-564-1988
Personal Phone / Ex. 6
wagner.kenneth@epa.gov

On May 16, 2017, at 2:08 PM, Smith, Robert L. <RLSmithII@Venable.com> wrote:

Can we meet Thursday afternoon?

From: Wagner, Kenneth <wagner.kenneth@epa.gov>
Sent: Monday, May 15, 2017 1:48:40 PM
To: Smith, Robert L.
Cc: Gunasekara, Mandy
Subject: Re: R5 Issue

Wednesday does not work as I am in Annapolis for a Chesapeake Bay meeting. Thursday afternoon could work after 2pm? How long will you need?

Kenneth E. Wagner
Senior Advisor to the Administrator
For Regional & State Affairs
US Environmental Protection Agency
 Office: 202-564-1988
Personal Phone / Ex. 6

wagner.kenneth@epa.gov

On May 15, 2017, at 1:43 PM, Smith, Robert L. <RLSmithII@Venable.com> wrote:

Thanks Mandy.

Ken - nice to e-meet you. I represent PolyMet and we are building the NorthMet Copper and Nickel mine in MN. Might you be available to see us on Wednesday to discuss the project and some of the issues we're having with R5? Thanks.

From: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>

Sent: Monday, May 15, 2017 12:14:00 PM

To: Wagner, Kenneth

Cc: Smith, Robert L.

Subject: R5 Issue

Hi Ken,

I'm connecting you with my friend Rob Smith (cc'd) who is having some issues out in Region 5 with regards to a mine. I think you would be a good place to start. Let me know if you need help from my end (or Sarah's if it involves water).

Rob, as I mentioned, Ken is the Administrator's go-to person for all things involving in the Regional Offices.

Best,
Mandy

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Message

From: Green, Joseph J. [JGreen@KelleyDrye.com]
Sent: 5/25/2017 4:58:30 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Manganese follow up
Attachments: Bell Talking Points v2.pdf;
 Comments_of_the_Manganese_Interest_Group___Proposed_SH_Bell_Consent_Decr....pdf;
 MIG_Response_to_Motion_to_Enter_SH_Bell_Consent_Decree.pdf; Scientific Flaws Talking Points for the Bell Consent Decree.pdf; MIG - Overview_of_Manganese_Reference_Concentration_(IRIS).pdf

Mandy –

It was great meeting you at the SMA meeting yesterday. I know everyone appreciated your taking the time to talk about the Administration's priorities and to listen to some of the issues facing the steel industry.

Following up on the manganese matter, attached are some documents that provide background on our concerns related to how EPA and DOJ have addressed perceived concerns with manganese emissions, including in the East Liverpool, Ohio area. I have included the following documents:

- * Talking points summarizing the core concerns with the pending SH Bell consent decree.
- * Two sets of comments filed by the Manganese Interest Group on the SH Bell consent decree (original and response comments) that provide more detail on our concerns. [Note that the court has yet to approve entry of the decree, possibly in response to the questions we raised regarding the baseless allegation that manganese emissions pose a risk to the community.]
- * A short summary of scientific concerns with the technical basis for the SH Bell consent decree.
- * A one-page overview of some of the fundamental science issues related to manganese toxicology and, in particular, the outdated IRIS reference concentration.

As the head of the Manganese Interest Group (which is comprised of companies and trade associations in the steel, ferroalloy, chemical, and other industry sectors), I would be happy to answer any questions you may have or provide additional information. If you think it would be useful for me or other members of the Group to speak others at EPA or in the Administration, please let me know.

Again, your time and attention to this issue is greatly appreciated.

Regards,
 Joe

JOSEPH J. GREEN
 Special Counsel
 Kelley Drye & Warren LLP
 Washington Harbour
 3050 K Street NW, Suite 400
 Washington, DC 20007
 Tel: (202) 342-8849
 JGreen@KelleyDrye.com

WWW.KELLEYDRYE.COM

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United States of America v. S.H. Bell Company, Case No. 4:17-cv-131
United States District Court, Northern District of Ohio Eastern Division

What is it?

A sue and settle case *filed at the behest of the U.S. Environmental Protection Agency (EPA) two days before the end of the Obama Administration*. The Complaint alleges that emissions of manganese particulate from the S.H. Bell facility in East Liverpool, Ohio present an “imminent and substantial endangerment” to public health under Clean Air Act section 303 and CERCLA section 106. The company was threatened with a “shut down” order if it did not concede.

What is at stake?

The allegation that manganese emissions from the S.H. Bell facility present an “imminent and substantial endangerment” is utterly baseless.

- The Ohio EPA – which has been actively engaged in enforcement against the facility since at least 2010 – does not agree with EPA’s determination and has publicly disagreed with the science on which EPA purportedly relies to support its allegation. *The case is a clear example of federal overreach.*
- The Manganese Interest Group filed detailed comments on February 24, 2017 in opposition to entry of an associated Consent Decree. The comments explain in detail why the allegation of an “imminent and substantial endangerment” is utterly baseless and not supported by the available science or actual monitoring data.
 - EPA maintains in the lawsuit that any exposure to manganese above a conservative “safe” lifetime exposure level, even for potentially sensitive populations (such as the very old and the very young), creates an “imminent and substantial endangerment” *even though EPA has clearly stated in other similar settings that no such allegation can be supported.*
 - EPA cheery picks one set of reported results from an EPA-sponsored research program purporting to show “associations” between “modeled” (as opposed to measured) exposures to manganese and adverse neurological outcomes in two Ohio towns with manganese air exposures, while completely ignoring that the same EPA-sponsored research also *failed to show any associations between adverse neurological outcomes and exposure to manganese in air when comparing one of the two exposed towns to another Ohio town with no manganese air exposures.*
- EPA should not employ a “sue and settle” strategy that effectively forces the targeted source to make an Orwellian choice: either agree to the terms of a consent decree dictated by EPA or shut down its operations for a minimum of 30 days.

What is the ask?

As with other EPA “last minute” regulatory activity that is currently being reviewed by the new Administration, this case should temporarily be held in abeyance to allow the new Administration a chance to review the substance of the Complaint and Consent Decree, as well as concerns with federal overreach.

**Manganese Interest Group (MIG) Comments on the
Proposed Consent Decree under the Clean Air
Act and the Comprehensive Environmental Response,
Compensation, and Liability Act**

United States v. S.H. Bell Company
Civil Action No. 4:17-cv-131

D.J. Ref. No. 90-5-2-1-11688/1
82 Fed. Reg. 8,436 (Jan. 25, 2017)

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Submitted via Electronic Mail to:
Assistant Attorney General
U.S. Department of Justice
Environment and Natural Resources Division
P.O. Box 7611
Washington, D.C. 20044-7611
pubcomment-ees.enrd@usdoj.gov

**cc: Lawrence Starfield, Acting Assistant Administrator, EPA Office of
Enforcement and Compliance Assurance, Starfield.Lawrence@epa.gov**

**Clerk of the Court, United States District Court, Northern District of Ohio,
Eastern Division**

Submitted by counsel on behalf of the Manganese Interest Group:
Joseph J. Green
Kelley Drye & Warren, LLP
3050 K Street, N.W.
Washington, D.C. 20007
202.342.8849
JGreen@KelleyDrye.com

The Manganese Interest Group (“the Group” or “MIG”)¹ hereby submits the following comments on the proposed consent decree lodged with the United States District Court for the Northern District of Ohio in the lawsuit entitled *United States v. S.H. Bell Company*, Civil Action No. 4:17-cv-131 (D.J. Ref. No. 90-5-2-1-11688/1) (“Consent Decree”). For the reasons detailed below, MIG objects to entry of the decree based on the Court’s lack of jurisdiction because an “imminent and substantial endangerment” does not exist and is not supported by the facts alleged in the accompanying Complaint. MIG respectfully requests that the Department of Justice (“DOJ”) and U.S. Environmental Protection Agency (“EPA”) withdraw the Consent Decree and correct the record in this case.

The Consent Decree and Complaint are brought under Section 303 of the Clean Air Act (“CAA”), and Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), both of which provide authority to take action to abate an “imminent and substantial endangerment to public health or welfare.” The Consent Decree provides that the Defendant “shall not contest that the Complaint states claims upon which relief may be granted pursuant to CAA Section 303 and CERCLA Section 106.” (Consent Decree at ¶2) However, it is axiomatic that parties cannot confer subject matter jurisdiction to a court by consent.² As detailed below, the Complaint and Consent Decree are riddled with falsehoods and transparent scientific distortions such that they cannot reasonably be said to allege a valid “imminent and substantial endangerment.” Therefore, the jurisdiction conferred by CERCLA Section 106 and CAA Section 303 is lacking and the Court is without subject matter jurisdiction over the Complaint and Consent Decree.³

The following comments explain how the Complaint and Consent Decree fails to establish or validly allege the existence of an imminent and substantial endangerment, as required for an action to fall under the Court’s jurisdiction pursuant to CERCLA Section 106 and CAA Section 303:

- (1) The allegation that exceedance of the Agency for Toxic Substances and Disease Registry (“ATSDR”) Minimum Risk Level (“MRL”) supports a finding of an

¹ MIG is an *ad hoc* coalition of trade associations and companies interested in the scientifically sound evaluation and regulation of manganese. Membership is comprised of steel producers, metalworkers, chemical manufacturers, ferroalloy producers, and other similar stakeholders, including: the American Iron and Steel Institute, the Steel Manufacturers Association, the Specialty Steel Industry of North America, the International Manganese Institute, the National Slag Association, Afton Chemical Corporation, Eramet Marietta, Inc., Felman Production, Inc., Nucor Steel, New Castle Stainless Plate LLC, and Cliffs Natural Resources.

² *Mansfield, C. & L.M. Ry. Co. v. Swan*, 111 U.S. 379 (1884); *see also Insurance Corp. of Ireland v. Compagnie des Bauxites de Guinee*, 456 U.S. 694 (1982) (“[N]o action of the parties can confer subject-matter jurisdiction upon a federal court. Thus, the consent of the parties is irrelevant [citing *California v. LaRue*, 409 U. S. 109 (1972)].”).

³ *See, e.g., Meghrig et al. v. KFC Western, Inc.*, 516 U.S. 479, 488 (1996) (holding in a case brought under the citizen suit provision of the Resource Conservation and Recovery Act (“RCRA”) that suit is only allowed upon proper allegation that contamination “poses an imminent and substantial endangerment”); *U.S. v. Midwest Solvent Recovery*, 484 F. Supp. 138, 142-143 (N.D.Ind. 1980) (in a case brought under the “imminent hazard” provision of RCRA the court held that the “evidentiary tests of jurisdiction” included the presentation of evidence by the EPA Administrator of an “imminent and substantial endangerment.”).

“imminent and substantial endangerment” is false, as EPA has openly acknowledged in other similar settings.

- (2) The Complaint and Consent Decree rely on a flawed and discredited September 2016 ATSDR report that was rejected by the Ohio Environmental Protection Agency (“Ohio EPA”). (Complaint at ¶17) EPA and DOJ are well-aware that the report is critically flawed in numerous respects and, in fact, the Ohio EPA took the extraordinary step of demanding that the ATSDR report “be abandoned and redone using all currently available data and scientifically supportable analytical methods.” The ATSDR report also is based on “cherry-picked” monitoring data and a skewed assessment of community study data that provides no actual evidence of a public health hazard.
- (3) In particular, the ATSDR report is not credible because the assessment relies on a comparison of manganese reference values (*i.e.*, the MRL) with total suspended particulate (“TSP”) levels, rather than the much smaller fraction of biologically, and toxicologically, relevant respirable particulate upon which the manganese reference values are based. The Consent Decree and Complaint are similarly flawed.
- (4) The ATSDR report also is undermined by relying, in part, on a comparison of emission levels to a manganese reference concentration (“RfC”) from EPA’s Integrated Risk Information System (“IRIS”), which the agency has acknowledged in other similar settings to be outdated and not based on the best currently available science.
- (5) The Consent Decree does not reflect “the United States’ current understanding of the health risks posed by exposure to airborne manganese.” The allegations in the Consent Decree ignore the most recent assessments of EPA and other federal agencies, as well as the broader scientific community, with respect to the toxicity of manganese air emissions.

For the foregoing reasons, the allegation that emissions of manganese in the East Liverpool, Ohio area “present an imminent and substantial endangerment to public health or welfare” is factually incorrect and not supported by the available scientific record. MIG therefore respectfully requests that the Complaint and Consent Decree be withdrawn.

I. EXCEEDANCE OF THE ATSDR MRL DOES NOT SUPPORT A FINDING OF AN “IMMINENT AND SUBSTANTIAL ENDANGERMENT”

The Consent Decree asserts that “[t]he United States’ allegations regarding the presence of an imminent and substantial endangerment are based on a range of considerations including, but not limited to, exceedances of the MRL for chronic respirable manganese exposure.” (Consent Decree at 1) This notion – that exceedance of an MRL supports the conclusion that an “imminent and substantial endangerment” exists – is false.

As EPA has clearly acknowledged in other contexts, risk screening values such as the ATSDR MRL and EPA RfC are thresholds for safety, not thresholds for risk. As such, exposure above the MRL does not necessarily entail an actual risk, much less an imminent and substantial endangerment. For example, EPA explained in the context of issuing a risk assessment for methylcyclopentadienyl manganese tricarbonyl (“MMT”):⁴

The exposure estimates shown in Figure 3 are in the range of or exceed some candidate RfC estimates as well as the current RfC. Exceeding the RfC does not necessarily indicate that a public health risk will occur. At present, it is impossible to state whether the projected exposures above the RfC would result in an adverse health effect for either an individual or the general population. At a sufficiently high level of exposure, adverse effects would be expected to occur, first in any sensitive subpopulations, then with greater prevalence in the general population and extending to other types of effects (e.g., reproductive and/or respiratory as well as neurobehavioral effects in the case of Mn). However, the relationship between such ‘sufficiently high’ levels and the population exposure levels estimated by the projection methods employed here is unknown. Expressed differently, given the gap between observed or modeled effect levels and the RfC values obtained by applying uncertainty factors of orders of magnitude, it is impossible to state whether projected population exposures would lie above or below a presumed threshold level on the actual concentration-response curve for Mn neurotoxicity. This gap between projected exposure levels and the lowest concentrations obtained by modeling the concentration-response relationship (at least, by the quantal linear model) makes it impossible to make any assertion regarding the likelihood of a health risk at projected exposure levels. However, this conclusion should not be interpreted to imply that, therefore, no health risk is expected at exposure levels exceeding the RfC.

As the Consent Decree notes, “MRL values reflect health-based estimates of exposure to a chemical over a specified duration that is likely to be without an appreciable risk of adverse noncancer health effects.” (Consent Decree at 1) Similarly, the Complaint states that the “MRL is the daily human exposure to a substance that is likely to be without an appreciable risk of adverse effects.” (Complaint at ¶20) As ATSDR further explains in guidance:⁵

These substance specific estimates, which are intended to serve as screening levels, are used by ATSDR health assessors and other responders to identify contaminants and potential health effects that may be of concern at hazardous waste sites. It is important to note that MRLs are not intended to define clean up or action levels for ATSDR or other Agencies....

Exposure to a level above the MRL does not mean that adverse health effects will occur.

MRLs are intended to serve as a screening tool to help public health professionals decide where to look more closely.... Most MRLs contain some degree of uncertainty because of the lack of precise toxicological information on the people

⁴ 59 Fed. Reg. 42227, 42250 (Aug. 17, 1994) (emphasis added).

⁵ ATSDR, *Minimum Risk Levels* (<https://www.atsdr.cdc.gov/mrls/index.asp>) (emphasis added).

who might be most sensitive (e.g., infants, elderly, and nutritionally or immunologically compromised) to effects of hazardous substances. ATSDR uses a conservative (i.e., protective) approach to address these uncertainties consistent with the public health principle of prevention.

Hence, by definition, the MRL is intended as a conservative screening value to identify areas that may warrant more nuanced risk evaluation.

At best, exposures above the MRL provide only “a reasonable basis for concern” that risks to public health may occur. Such a “reasonable basis for concern” is not sufficient to conclude that public health is endangered. For example, when EPA issued its decision denying approval for the use of MMT in gasoline, the agency concluded “there is a *reasonable basis for concern* about the effects on public health that could result if EPA were to approve use of MMT in unleaded gasoline pursuant to Ethyl’s application.”⁶ When Ethyl challenged EPA’s reliance on its “reasonable basis of concern” standard as a basis for its regulatory decision, the D.C. Circuit found it to be a “bizarre departure from existing practice”:

Not only is there no enforcement practice to support the Administrator’s action in this case, the standard employed is not the standard the EPA has previously applied in its public health determinations under section 211(c)(1)(A). In *Ethyl Corp. v. EPA*, this court reviewed the Administrator’s interpretation of the standard required in evaluating the public health implications of lead emissions under section 211(c) and found it reasonable. 541 F.2d 12. The Administrator construed section 211(c)(1)(A)’s ‘will endanger the public health’ language to require a finding that the fuel additive ‘present[s] a significant risk of harm,’ and this court affirmed that construction after analyzing the language of the provision, the language of nearby provisions, and other circuits’ interpretations of the Clean Air Act. *See id.* at 12-32. The court concluded that ‘the Administrator may regulate lead additives under Section 211(c)(1)(A) when he determines that lead automobile emissions significantly increase the total human exposure to lead so as to cause a significant risk of harm to public health.’ *Id.* at 31-32. In this case, however, the Administrator used a very different standard from the one she uses in section 211(c)(1)(A) proceedings, saying simply that ‘I have concluded that there is a reasonable basis for concern about the effects on public health that could result if EPA were to approve use of MMT in unleaded gasoline pursuant to Ethyl’s application.’ Waiver Decision at 42,260. This is a bizarre departure from existing practice, in complete defiance of the plain terms of the statutory criterion and with no explanation whatsoever for the application of a different standard.⁷

In the specific case of manganese, the ATSDR MRL is based on a no observed effect level (“NOEL”) of 142 $\mu\text{g}/\text{m}^3$ from a worker exposure study that was adjusted to a continuous exposure NOEL of 33 $\mu\text{g}/\text{m}^3$, and then further adjusted with a 100-fold uncertainty factor applied for sensitive populations. These “no effect levels” are several orders of magnitude greater than the alleged manganese air concentrations in the East Liverpool area.

⁶ 59 Fed. Reg. at 42260 (emphasis added).

⁷ *Ethyl Corp. v. Browner*, 51 F.3d 1053 (D.C. Cir. 1995) (emphasis added).

In sum, exceedance of the MRL does not mean that adverse effects on public health are likely to occur, and certainly is not evidence that an “imminent and substantial endangerment to public health” exists. For DOJ and EPA, as well as ATSDR, to allege otherwise is *prima facie* erroneous.

II. THE CONSENT DECREE AND COMPLAINT RELY ON A FUNDAMENTALLY FLAWED AND DISCREDITED ATSDR REPORT

DOJ and EPA claim support for the allegations of an “imminent and substantial endangerment” in the Consent Decree and Complaint based on a September 22, 2016 ATSDR report⁸ concluding that: “The exposures in this community represent a public health hazard and should be mitigated as soon as possible to reduce harmful exposures.” (Complaint at ¶17) The conclusions of the report are the product of explicit departures from well-recognized scientific determinations made both by EPA and ATSDR, the most notable of which, as discussed above, was using “safe” reference concentrations for inhaled manganese as a measure of risk.

Further evidencing the poor quality of the ATSDR report, its many flaws were substantial enough to trigger a letter from Ohio EPA a month before filing of the Complaint demanding that the report be “abandoned and redone using all currently available data and scientifically supportable analytical methods.”⁹

Notably, the Ohio EPA rejected the conclusions in the ATSDR report as “not scientifically supportable [and] completely undermine any conclusions made that a ‘public health hazard’ is present to the East Liverpool community.”¹⁰ The letter summarized the “ATSDR report’s significant and substantive analytical failures” as follows:¹¹

1. Failure to evaluate the scientifically relevant manganese particle (respirable fraction — Mn PM₁₀), instead relying entirely on total suspended particulate (TSP), even though ATSDR itself acknowledged that the MRL is based on the respirable fraction.
2. Application of an outdated and irrelevant 1993 USEPA RfC of 0.05, instead of solely relying on ATSDR’s own 0.3 MRL. USEPA has officially recognized that ATSDR’s MRL should be used over the RfC for Mn (see Proposed Ferroalloy NESHAP, 79 Fed. Reg. 60238, 60247 (2014) and Final Ferroalloy NESHAP, 80 Fed. Reg. 37366, 37375 (2015)).
3. Failure to acknowledge, as does USEPA, that airborne respirable fraction concentrations of Mn below the MRL for a pollutant are unlikely to cause

⁸ Letter dated September 22, 2016, from Dr. Michelle Colledge, ATSDR, to Ed Nam, Acting Director of Air and Radiation Division, EPA Region 5 (“ATSDR report”).

⁹ Letter dated November 10, 2016, from Craig W. Butler, Director, Ohio EPA, to Dr. Michelle Colledge, ATSDR (“Ohio EPA Letter”) (attached).

¹⁰ Ohio EPA Letter at 1.

¹¹ Ohio EPA Letter at 1-2.

harmful health effects (<https://www.epa.gov/oh/east-liverpool-and-glasgow-borough-pennsylvania-air-monitoring-data>).

4. Failure to utilize the most relevant and acceptable time-series statistical methods that account for autocorrelation, cyclicity or seasonal variation in the data used to support Mn concentration trend through time. These underlying data structures must be evaluated to determine if a significant trend is present. The R-statistical program has these routines but ATSDR failed to utilize it in their trend analysis.
5. Use of dated and controverted studies such as one from 2010 by San Francisco State University (<http://online.sfsu.edu/mnstudy/study.html>) that no longer accurately reflects the exposure levels in the community and fails to recognize that any subtle differences between populations were within statistical normal ranges.

The failure to subject the September 2016 ATSDR report to peer review also is striking. Ohio EPA made the understandable point that many of these “obvious errors and omissions would have been identified and corrected had ATSDR either sought credible peer-review or, at a minimum, input from Ohio EPA in advance of publication.”

MIG supports these critiques of the ATSDR report and amplifies several of the key points in the comments below.¹²

Reliance on “Cherry-Picked” Data

Perhaps most troubling is ATSDR’s selective “cherry picking” of both monitoring data and studies purporting to find adverse health effects, the two essential prongs (exposure and effect) to support a conclusion that a “public health hazard” exists. ATSDR did not seek air monitoring data from Ohio EPA regarding the more biologically relevant PM₁₀ inhalable particulate size, despite knowing that the data were available and had been provided by Ohio EPA in the past. Instead, ATSDR utilized TSP data to support its erroneous conclusions regarding the risk to the community.¹³ This is particularly concerning given that the author of the September 2016 ATSDR report, Dr. Michelle Colledge, also was the primary author of a 2015 paper that reported that Mn-PM₁₀

¹² In response to the Ohio EPA, ATSDR sent a letter dated December 6, 2016, in which the agency refused to withdraw or amend the September 2016 report and reiterated the numerous deficiencies in the analysis. As this response has not been cited by DOJ or EPA in support of the Complaint and Consent Decree, it is not examined further in these comments. Curiously, Ohio EPA has indicated that they did not receive the ATSDR response letter until the week of February 13-17, 2017, over two months after its address date.

¹³ See Ohio EPA Letter at 2 (“In fact, Ohio EPA could have given ATSDR updated data just as it has in the past. For example, ATSDR told Ohio Department of Health back in 2011 that the PM₁₀ data on metals was critical to evaluating health impacts and received PM₁₀ data from Ohio EPA. ATSDR was well aware that the Ohio EPA has been actively collecting Mn PM₁₀ data from filters in East Liverpool and also that Ohio EPA had compliance-enforcement orders with the S.H. Bell facility.”).

concentrations are only 20-35% of Mn-TSP concentrations.¹⁴ (Notably, the 20%-35% estimate reported in the Colledge *et al.* (2015) paper is inaccurate as a comparison of actual Ohio EPA PM₁₀ and TSP air monitoring data shows that average Mn-PM₁₀ concentrations are less than 20% of Mn-TSP concentrations.¹⁵)

The ATSDR report also relies on “cherry picked” data from community studies in the East Liverpool area to support the conclusion that a “public health hazard” exists.¹⁶ Yet the conclusions of these studies stand in marked contrast to the findings of the best available science, much of which was reviewed and considered in support of the 2012 ATSDR *Toxicological Profile for Manganese*.¹⁷ The information omitted from ATSDR’s review of the East Liverpool area, including human physiologically-based pharmacokinetic (“PBPK”) models discussed in more detail below, raises fundamental questions as to the scientific and biological plausibility of the conclusions in the studies upon which ATSDR selectively chose to rely. Such “cherry picking” is at odds with proper risk evaluation methods and, at minimum, renders the ATSDR report incomplete and unpersuasive.

ATSDR’s Skewed Treatment of the Community Study Data Provides No Actual Evidence of a Public Health Hazard

A critique of the ATSDR report by Gradient explains why the agency’s selective analysis provides no reliable evidence of a “public health hazard” or potential “imminent and substantial endangerment”:¹⁸

ATSDR also discusses the recent East Liverpool, OH and Marietta, OH community studies conducted by Colledge *et al.* (2015) and Bowler *et al.* (2015, 2016) to suggest that elevated levels of Mn in air in East Liverpool are related to lower neuropsychological test scores in adult residents. This inference does not consider the relevant Mn air particulate size for drawing conclusions regarding risk and, as such, represents a scientifically inappropriate interpretation of the data. As discussed below, these studies do not provide reliable evidence of an association between elevated Mn levels and lower neuropsychological scores in East Liverpool residents.

¹⁴ Colledge, MA; Julian, JR; Gocheva, VV; Beseler, CL; Roels, HA; Lobdell, DT; Bowler, RM. 2015. “Characterization of air manganese exposure estimates for residents in two Ohio towns.” J. Air Waste Manag. Assoc. 65(8):948-957. doi: 10.1080/10962247.2015.1040525.

¹⁵ Mn-PM₁₀ concentrations averaged 16.8% in 2015, 12.8% in 2014, and 13.9% in 2013 as a percentage of Mn-TSP.

¹⁶ Based on the flawed ATSDR report, the Complaint alleges that “East Liverpool residents have been identified with health ailments consistent with chronic manganese exposure.” (Complaint at 1) In addition, it states that “[a]s discussed in a series of peer-reviewed papers published in 2015 and 2016, the study team found that higher concentrations of air manganese exposure is associated with certain adverse neurological effects, including lower neuropsychological test scores and is negatively correlated with motor function and tremor.” (Complaint at ¶28)

¹⁷ ATSDR, *Toxicological Profile for Manganese* (Sept. 2012) (“*Toxicological Profile*”).

¹⁸ See Letter dated October 24, 2016, from Gradient to Dr. Michelle Colledge, ATSDR (“Gradient Letter”). The full citations from the Gradient Letter have been omitted.

...[R]espirable Mn concentrations (which would be included in the PM₁₀ fraction) represent the fraction of Mn concentrations in air that can get to the deeper parts of the lungs, be absorbed systemically, and then be transported to the brain. As such, respirable Mn concentrations are the most scientifically appropriate fraction for relating Mn exposure to potential neurological effects. Because the authors used only Mn TSP and not Mn PM₁₀ data to draw conclusions regarding potential correlations with neurological effects, their conclusions regarding Mn risk are not scientifically supportable....

PM₁₀ is a much smaller fraction of TSP in East Liverpool (35%)¹⁹ compared to Marietta (83%). Therefore, comparisons of TSP Mn concentrations between the two towns do not reflect relative differences in the more biologically relevant respirable Mn fraction. The modeled Mn TSP average concentration for East Liverpool is about 4-fold higher than Marietta, but the Mn PM₁₀ average concentrations for the two towns are similar, and both at or below the Mn MRL. Given the similarity in Mn PM₁₀ air concentrations between the two towns, it is unlikely that Mn exposure explains the difference in neurological effects between the two towns.

Had the authors evaluated only the more biologically relevant Mn PM₁₀ concentrations, the conclusions from these studies likely would have been different. The differences in neuropsychological effects could very well be explained by other risk factors, such as difference in education levels, which were significantly different, with educational attainment being lower in East Liverpool than in Marietta (Bowler *et al.*, 2015, 2016). The authors provide no explanation as to why they used modeled TSP concentrations when modeled PM₁₀ concentrations were available.

Further, all values ... are well below air concentrations at which Mn is modeled to begin to accumulate in the brain above normal levels (10 µg/m³) (Schroeter *et al.*, 2011; Yoon *et al.*, 2011; Schroeter *et al.*, 2012), providing further support that levels of Mn in air in these communities would not lead to adverse neurological effects.

Improper Comparison of Chronic Reference Values to Short-Term Exposure Data

Moreover, the conclusions from the ATSDR report that serve as the basis for the allegations in the Consent Decree and Complaint are the product of an erroneous comparison to the MRL of daily and monthly average manganese air concentrations instead of using the appropriate metric of long-term (one year or greater) manganese air concentrations. The MRL is a chronic value as defined by ATSDR; as such, the document specifically states

¹⁹ As noted previously, the 35% estimate reported in the Colledge *et al.* (2015) paper is inaccurate as a comparison of actual Ohio EPA PM₁₀ and TSP air monitoring data shows that on average Mn-PM₁₀ concentrations are less than 20% of Mn-TSP concentrations (2013-2015 annual averages ranging between 12.8% and 16.8%). Even using a very conservative 20% fraction would cause the estimated PM₁₀ manganese concentrations as reported in the 2015 Colledge paper to be well less than ATSDR's manganese MRL.

that a chronic value is based on exposures of at least one year. As noted in the Gradient critique of the ATSDR report:²⁰

It is widely accepted in the scientific community that chronic toxicity values should be compared to data averaged over periods of at least one year or more. Additionally, the US EPA Risk Assessment Guidance for Superfund defines chronic exposure as exposure over a long period of time (*i.e.*, seven years or more), and defines chronic reference concentrations (such as an MRL) as values specifically developed to be protective for long-term exposures (*i.e.*, seven years or more).

Accordingly, chronic reference values should be compared to long-term exposures of at least one year, and not to short-term daily or monthly values as was done in the ATSDR report. Comparison of chronic reference values to monthly or daily exposure estimates is scientifically incorrect and results in an overstatement of the potential risk.

As the transparently flawed ATSDR report is the primary basis for the allegations by DOJ and EPA, the Consent Decree and Complaint should be withdrawn.

III. RELIANCE ON TSP LEVELS TO ASSESS POTENTIAL HEALTH RISKS IS SCIENTIFICALLY FLAWED AND BIOLOGICALLY IRRELEVANT

As noted above, one of the fundamental flaws in the ATSDR report, as well as the Consent Decree and Complaint, is a reliance on comparison of total particulate levels, instead of the biologically relevant respirable-size particles, to manganese risk values (*i.e.*, the MRL). What is particularly surprising is that the fundamental flaw in this approach is acknowledged in both the ATSDR report and Complaint. For example, the ATSDR report states:

The occupational study that is the basis of the MRL and RfC evaluated exposure for manganese particles less than 5 microns. These particle sizes are considered to be the “respirable fraction”, which travel past the upper respiratory system to enter the lungs. The manganese air measurements collected in East Liverpool are total suspended particulate matter. Initial characterization of particles on the TSP filters from East Liverpool indicates an aerodynamic particle size range of 4.4-24.3 microns.

In other words, the vast majority of manganese emissions in the East Liverpool area are greater than the 5 micron particle size upon which the MRL is based. Nevertheless, contrary to all sound science, ATSDR persisted in using the TSP data as the basis for its finding of a “public health hazard.”

The Complaint similarly recognizes that:

The MRL and RfC values are based on the respirable fraction of manganese-containing particulate matter (less than 10 microns in aerodynamic diameter or

²⁰ Gradient Letter at 5.

PM₁₀), as these are the small particles that can pass deep into the lung and, thus, into the bloodstream and on to the brain. The respirable fraction of manganese particles in the ambient air is an indicator of the levels of manganese being inhaled by people in the community.

(Complaint at ¶22) In fact, the “respirable” fraction of particulate matter is less than 5 microns (PM₅), which is the particle size on which the MRL and RfC were developed. By mistaking the “respirable” size fraction (PM₅) for the “inhalable” (PM₁₀) fraction, this brings into question the assertion in the Complaint (¶23) that 20-35% of TSP emissions in the East Liverpool area are “respirable.” Instead, the unanswered, and toxicologically critical, question is what percentage of the emissions are PM₅.

The Complaint then proceeds, without support or basis in science or fact, to allege that “[n]on-respirable manganese particles may also have a deleterious effect on human health. Manganese may be inhaled and transmitted directly to the brain via the nasal passage and to the olfactory bulb or trigeminal nerve.” (Complaint at ¶24) This concern is contradicted directly by ATSDR’s findings, in the agency’s 2012 *Toxicological Profile for Manganese*, which states: “Total dust represents larger particles that cannot travel as deeply into the lungs as respirable dust, and will largely be coughed up and swallowed.”²¹ Larger particles, which comprise the majority of TSP, are trapped in the upper airways, do not penetrate the lung tissue, and are controlled via homeostasis in the gastrointestinal tract with minimal systemic availability – a phenomenon well-documented as one of the toxicokinetic behaviors of manganese. In short, these larger particles, which account for the vast majority of manganese emissions in the East Liverpool area, are not of toxicological relevance to the adverse effects alleged in the Complaint.

Reliance on total dust concentrations overstates significantly the potential risks associated with inhalation of manganese in respirable dust. For risk assessment purposes, evaluation of the potential risks associated with manganese inhalation should compare the chosen risk value (*i.e.*, the 2012 ATSDR MRL) to PM₅-Mn concentrations. In the absence of PM₅ data, an adjustment should be made to the manganese risk value that reflects the application to PM₁₀-Mn air concentrations. The appropriate PM₅ adjustment factor should be determined on a case-by-case basis using particle size reference values from industry/source-specific published documents or from actual source emission testing with particle size distribution information.²²

²¹ *Toxicological Profile* at 60.

²² In addition, the ATSDR MRL covers “manganese and manganese compounds” generally, independent of the solubility of different compounds and differences in valence state. In conducting risk assessment, it should be understood that the MRL is incrementally more “protective” than strictly necessary for less soluble manganese compounds, such as manganese oxides (Mn⁴⁺), compared to more soluble compounds, such as manganese sulfate (Mn²⁺). Emissions of manganese from the S.H. Bell facility would be expected to be of the less soluble, metallic forms.

IV. USE OF THE OUTDATED MANGANESE RFC IS NOT APPROPRIATE AND CONTRARY TO EPA POLICY

The Complaint (§21) and ATSDR report (Table 2) both rely, in part, on the outdated EPA IRIS RfC for manganese to support the “endangerment” finding. This is inappropriate and contrary to clear EPA policy. The RfC value was issued in 1993 and has not been reviewed or updated for over two decades. Since that time, there has been extensive advancement in the study and understanding of manganese toxicology. In developing air toxics standards for the Ferroalloys Production sector, which manufactures the primary feedstock managed by the S.H. Bell facility (ferromanganese), EPA recognized the outdated nature of the IRIS RfC and that it is no longer consistent with the latest and best available science. Accordingly, EPA ceased relying on the RfC, which it had used to develop the original proposed Ferroalloys Production rule, and opted instead to utilize the recently updated ATSDR MRL.²³ Further, in 2014, the EPA Office of Air Quality Planning and Standards revised its database of benchmark values for use in assessing risks from air emissions by replacing reference to the IRIS RfC with the ATSDR MRL.²⁴

ATSDR’s 2012 *Toxicological Profile* increased by nearly an order of magnitude the inhalation MRL for manganese from 0.04 micrograms per cubic meter (“ $\mu\text{g}/\text{m}^3$ ”) (similar to the IRIS RfC of 0.05 $\mu\text{g}/\text{m}^3$) to 0.3 $\mu\text{g}/\text{m}^3$.²⁵ ATSDR did so by removing an uncertainty factor of five that was previously applied “for potentially increased susceptibility in children based on differential kinetics in the young.”²⁶ ATSDR determined that the then-newly available manganese PBPK model for fetuses, suckling neonates, and 3-year old children demonstrated that the additional uncertainty factor was not necessary and that the standard uncertainty factor of ten “for human variability including possibly enhanced susceptibility of the elderly, infants, and children” was sufficient.²⁷ These revisions were based on extensive new science, including consideration of the PBPK models (though ATSDR did not actually apply the models) developed since adoption of the manganese RfC in 1993.

Reliance on the IRIS RfC for manganese in the Complaint and ATSDR report ignores these developments in manganese toxicology and fails to account for the “best available science,” of which both EPA and ATSDR should be well aware.

²³ See National Emissions Standards for Hazardous Air Pollutants: Ferroalloys Production (Final Rule), 80 Fed. Reg. 37,366, 37,375 (June 30, 2015).

²⁴ See EPA Office of Air Quality Planning and Standards, *Dose-Response Assessment for Assessing Health Risks Associated With Exposure to Hazardous Air Pollutants: Prioritized Chronic Dose-Response Values for Screening Risk Assessments*, Table 1 (manganese compounds) (available at: <https://www.epa.gov/fera/dose-response-assessment-assessing-health-risks-associated-exposure-hazardous-air-pollutants>).

²⁵ *Toxicological Profile* at 435.

²⁶ *Id.*

²⁷ *Id.*

V. THE CONSENT DECREE DOES NOT REFLECT CURRENT UNDERSTANDING OF MANGANESE TOXICOLOGY

While an exhaustive review of manganese toxicology is beyond the scope of these comments, even a brief discussion demonstrates it is incorrect to claim that the Consent Decree “reflects the United States’ current understanding of the health risks posed by exposure to airborne manganese.” (Consent Decree at 1) In fact, the opposite is true: the Consent Decree and Complaint ignore current science, including recent EPA policy pronouncements, on manganese toxicology. This is particularly true, as discussed above, with respect to asserting that exceedance of the MRL supports the finding of an “imminent and substantial endangerment,” use of the IRIS RfC value, and reliance on total particulate data instead of the respirable fraction.

Furthermore, it is important to recognize that the 2012 ATSDR MRL itself does not reflect a substantial body of recent additional scientific information relating to manganese toxicology. Manganese, as an essential nutrient, presents unique challenges in risk assessment.²⁸ However, significant advancements in the scientific understanding of the disposition of inhaled manganese in the body can help inform accurate assessment of potential risks. In particular, the human PBPK model for manganese, the first for an essential nutrient, indicates that the human body effectively processes manganese (both inhaled and ingested) at levels that are two to three orders of magnitude higher than existing manganese standards.²⁹ At typical environmental inhalation exposure levels, including the range of potential exposures in the East Liverpool area, for example, the model shows that

²⁸ As the current IRIS assessment for manganese states: “Manganese is a ubiquitous element that is essential for normal physiologic functioning in all animal species. Several disease states in humans have been associated with both deficiencies and excess intakes of manganese. Thus any quantitative risk assessment for manganese must take into account aspects of both the essentiality and the toxicity of manganese.”

²⁹ These results hold true for children and other sensitive subpopulations. The human PBPK model can be used to estimate changes in manganese tissue levels as normal dietary intake and environmental or occupational exposures to manganese in air and water change over time. It demonstrates, among other things, the existence of dose dependent triggers for the accumulation of manganese in key target tissues, such as the brain. Peer-reviewed studies suggest that manganese brain concentrations would not exceed normal levels in adults, children, neonates, and fetuses at exposure concentrations as high as 10 µg/m³, providing further support for the conservatism of the manganese MRL of 0.3 µg/m³.

See Schroeter, JD; Dorman, DC; Yoon, M; Nong, A; Taylor, MD; Andersen, ME; Clewell, HJ. 2012. “Application of a multi-route physiologically-based pharmacokinetic model for manganese to evaluate dose-dependent neurological effects in monkeys.” *Toxicol. Sci.* 129(2):432-446;

Schroeter, JD; Nong, A; Yoon, M; Taylor, MD; Dorman, DC; Andersen, ME; Clewell, HJ III. 2011. “Analysis of manganese tracer kinetics and target tissue dosimetry in monkeys and humans with multiroute physiologically based pharmacokinetic models.” *Toxicol. Sci.* 120(2):481-498. doi: 10.1093/toxsci/kfq389;

Yoon, M; Schroeter, JD; Nong, A; Taylor, MD; Dorman, DC; Andersen, ME; Clewell, HJ III. 2011. “Physiologically based pharmacokinetic modeling of fetal and neonatal manganese exposure in humans: Describing manganese homeostasis during development.” *Toxicol. Sci.* 122(2):297-316. doi: 10.1093/toxsci/kfr141.

chronic exposure does not materially alter tissue concentrations outside the normal fluctuations that occur due to changing dietary intakes.

EPA had the foresight to mandate development of the PBPK models specifically for the purpose of reducing uncertainty in manganese risk assessments under the Clean Air Act.³⁰ The human PBPK model was subjected to extensive scientific peer review by EPA staff in the Office of Research and Development and an independent technical advisory panel, and EPA officials have recognized the clear potential value of the model for risk assessment and other related activities.³¹

Although ATSDR took into account the existence of the PBPK models in developing the *Toxicological Profile for Manganese*, ATSDR did not formally apply the models, nor did ATSDR consider application of the PBPK models by a variety of researchers who published a series of important scientific papers after ATSDR's assessment of the available science effectively ended. In MIG's view, proper application of this new science would result in an RfC or MRL for manganese at least an order of magnitude higher than the current MRL value. A change in the manganese standard of this degree would further reinforce that the alleged "imminent and substantial endangerment" in the government's Complaint and Consent Decree is factually baseless.

CONCLUSION

MIG appreciates the opportunity to provide these comments on the proposed Consent Decree. Given the numerous infirmities detailed above with the underlying science that serves as the basis for the central allegations in the Consent Decree and Complaint, it is readily apparent that the claim that an "imminent and substantial endangerment" exists in the East Liverpool area due to manganese emissions from the S.H. Bell facility is false. The issues detailed above are not matters of scientific debate, but rather clear departures from widely accepted understandings about manganese toxicology, manganese toxicokinetics, and agency policies, including those of both EPA and ATSDR. Such fundamental distortions and falsehoods do not support a valid allegation of an "imminent and substantial endangerment" as required for the Court to exercise jurisdiction under CERCLA Section 106 and CAA Section 303. The Consent Decree and Complaint should be withdrawn.

³⁰ See 65 Fed. Reg. 44,775 (July 19, 2000) (announcing health and exposure testing requirements for MMT); see also Letter dated May 11, 2000 from EPA to Ethyl Corp. (describing MMT test requirements including PBPK studies).

³¹ See Boyes WK. 2010. Essentiality, Toxicity, and Uncertainty in the Risk Assessment of Manganese. *Journal of Toxicology and Environmental Health Part A*, 73(2):159-165.

Integrated Risk Information System (IRIS): Overview of Manganese Reference Concentration

- ▶ Manganese Reference Concentration (RfC) of 0.05 $\mu\text{g}/\text{m}^3$ established in 1993
 - Data limitations led to application of extensive default uncertainty factors (1000x)
- ▶ Current standard is not based on “best available science”
 - Data gaps from 1994 have been filled: EPA IRIS literature search (2008) identified 201 “potential key references” for RfC reassessment (539 total)
 - Mn identified as “high priority” substance for IRIS reassessment (June 2011)
- ▶ EPA’s own review of RfC (1994) identified alternative Mn RfC range of 0.09-0.2 $\mu\text{g}/\text{m}^3$
 - Utilized now-standard benchmark dose statistical approach in contrast to 1993
 - EPA chose not to adopt: “there is no significant difference between the verified RfC of 0.05 $\mu\text{g}/\text{m}^3$ and the alternative estimates”
- ▶ Since 1993, numerous organizations have adopted or proposed Mn air standards:
 - WHO: 0.15 $\mu\text{g}/\text{m}^3$ (2001); California OEHHA REL: 0.09 $\mu\text{g}/\text{m}^3$ (2008); Health Canada RfC: range of 0.05-0.14 $\mu\text{g}/\text{m}^3$ (2010); Ontario Ministry of Environment’s 24-hour ambient air quality criterion: 0.10 $\mu\text{g}/\text{m}^3$ (2011); **ATSDR MRL: 0.3 $\mu\text{g}/\text{m}^3$ (2012 final)**
 - EPA Office of Air Quality Planning and Standards (2014): replaces use of IRIS RfC with ATSDR MRL for conducting risk reviews
- ▶ Mn is an essential nutrient at low doses and potentially toxic at high doses. Humans have elaborate homeostatic mechanisms that regulate how Mn is absorbed, distributed, metabolized, and eliminated.
 - Studies conducted under EPA Office of Research and Development supervision provide extensive data used to develop human physiologically-based pharmacokinetic (PBPK) models for inhaled Mn (2011)
 - These models demonstrate that Mn accumulation in target tissues (and the potential for toxicity) does not occur when the level of Mn in air is low (including for brain tissues thought to be most sensitive, as well as sensitive subpopulations)
 - Accumulation in target tissues begins only when exposed to levels of Mn above an identifiable dose-dependent transition point ($\sim 10\text{-}20 \mu\text{g}/\text{m}^3$)
- ▶ Toxicology Excellence for Risk Assessment (“TERA”)/International Toxicity Estimates for Risk (“ITER”) highlighted the importance of Mn PBPK modeling work
 - Publish paper proposing a Mn RfC in the range 2-7 $\mu\text{g Mn}/\text{m}^3$
- ▶ EPA Marietta studies recognize: “Since increased concentrations of plasma-Mn are not expected for Mn-air exposure below 10 $\mu\text{g}/\text{m}^3$, the likelihood of Mn accumulation in the brain and the biological[] plausibility of subsequent neurological disruption does not seem very high.”
- ▶ Time is ripe for reassessment of Mn RfC, consistent with Data Quality Act mandate to maximize “the quality, objectivity, utility, and integrity of information disseminated by Federal agencies.” Opportunity to provide regulators and the public with a more informed assessment of manganese.

The science is there, now is the time to apply it.

**Submission of the Manganese Interest Group (MIG)
regarding United States' Memorandum in Support of
Motion for Entry of Consent Decree**

***United States v. S.H. Bell Company*
Civil Action No. 4:17-cv-00131-BYP
D.J. Ref. No. 90-5-2-1-11688/1**

March 29, 2017

**Submitted via Electronic Mail to:
Assistant Attorney General
U.S. Department of Justice
Environment and Natural Resources Division
P.O. Box 7611
Washington, D.C. 20044-7611
pubcomment-ees.enrd@usdoj.gov**

**cc: Clerk of the Court, United States District Court, Northern District of Ohio,
Eastern Division**

**Submitted by counsel on behalf of the Manganese Interest Group:
Joseph J. Green
Kelley Drye & Warren, LLP
3050 K Street, N.W.
Washington, D.C. 20007
202.342.8849
JGreen@KelleyDrye.com**

The Manganese Interest Group (“the Group” or “MIG”)¹ writes to express our concern and disappointment that the Department of Justice (“DOJ”) and U.S. Environmental Protection Agency (“EPA”), in their March 28, 2017 Memorandum in Support of the Motion to Enter the Consent Decree (“Memorandum in Support”), failed to respond to the detailed and well-considered comments filed by MIG objecting to entry of the decree. Instead, the government repeats the erroneous assertions from the Complaint and Consent Decree purporting to establish that an “imminent and substantial endangerment” exists in the East Liverpool area. As detailed in MIG’s February 24, 2017 comments, which are hereby incorporated by reference, these allegations are wholly unfounded.

Most troubling is the government’s unwarranted and inaccurate assertion that MIG’s argument that the court lacks jurisdiction is “unsupported.” (Memorandum in Support at 20.) In so doing, the government neglects to address the fundamental failure of the Complaint and Consent Decree to allege a valid “imminent and substantial endangerment.” The government’s action is premised on the authority under Section 303 of the Clean Air Act (“CAA”) and Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) to take action to abate an “imminent and substantial endangerment to public health or welfare.” By failing to assert, by any reasonable standard, facts that support an “imminent and substantial endangerment,” the jurisdiction conferred by CERCLA Section 106 and CAA Section 303 is lacking and the Court is without subject matter jurisdiction over the Complaint and Consent Decree.

Moreover, MIG questions whether it is possible for a Consent Decree premised on addressing an “imminent and substantial endangerment” to be considered “fair, adequate, and reasonable” or “consistent with the public interest” when, in fact, there has been no demonstration that such a public hazard exists.

As MIG’s comments clearly stated, EPA has openly acknowledged in other similar contexts that risk screening values such as the Agency for Toxic Substances and Disease Registry (“ATSDR”) “minimum risk level” (“MRL”) and EPA “reference concentration” (“RfC”) are thresholds for safety, not thresholds for risk. As such, exposure above the MRL does not necessarily entail an actual risk, much less an imminent and substantial endangerment. *This is particularly true when emissions do not actually exceed the MRL, and have not for over a year, as the government now admits to be the case in East Liverpool* (discussed further below). As EPA has explained in the context of issuing a risk assessment for methylcyclopentadienyl manganese tricarbonyl (“MMT”):²

¹ MIG is an *ad hoc* coalition of trade associations and companies interested in the scientifically sound evaluation and regulation of manganese. Membership is comprised of steel producers, metalworkers, chemical manufacturers, ferroalloy producers, and other similar stakeholders, including: the American Iron and Steel Institute, the Steel Manufacturers Association, the Specialty Steel Industry of North America, the International Manganese Institute, the National Slag Association, Afton Chemical Corporation, Eramet Marietta, Inc., Felman Production, Inc., Nucor Steel, New Castle Stainless Plate LLC, and Cliffs Natural Resources.

² 59 Fed. Reg. 42,227, 42,250 (Aug. 17, 1994) (emphasis added). Similarly, ATSDR has explained: “Exposure to a level above the MRL does not mean that adverse health effects will occur. MRLs are

The exposure estimates shown in Figure 3 are in the range of or exceed some candidate RfC estimates as well as the current RfC. Exceeding the RfC does not necessarily indicate that a public health risk will occur. At present, it is impossible to state whether the projected exposures above the RfC would result in an adverse health effect for either an individual or the general population. At a sufficiently high level of exposure, adverse effects would be expected to occur, first in any sensitive subpopulations, then with greater prevalence in the general population and extending to other types of effects (e.g., reproductive and/or respiratory as well as neurobehavioral effects in the case of Mn). However, the relationship between such ‘sufficiently high’ levels and the population exposure levels estimated by the projection methods employed here is unknown. Expressed differently, given the gap between observed or modeled effect levels and the RfC values obtained by applying uncertainty factors of orders of magnitude, it is impossible to state whether projected population exposures would lie above or below a presumed threshold level on the actual concentration-response curve for Mn neurotoxicity. This gap between projected exposure levels and the lowest concentrations obtained by modeling the concentration-response relationship (at least, by the quantal linear model) makes it impossible to make any assertion regarding the likelihood of a health risk at projected exposure levels. However, this conclusion should not be interpreted to imply that, therefore, no health risk is expected at exposure levels exceeding the RfC.

If it is “impossible to make any assertion regarding the likelihood of a health risk at projected exposure levels” at or near the level of the manganese RfC (or the ATSDR MRL), the government needs to explain to the Court precisely how and why the same levels of exposure (even if occurring in the East Liverpool area, which they are not) now purportedly constitute an imminent and substantial endangerment to public health. Resorting to name calling, as DOJ has with respect to MIG’s comment on this important point, is a *non sequitur* and does not serve that function.³ MIG respectfully urges DOJ to address directly the above-referenced quote for the benefit of the Court’s deliberations.

The Memorandum in Support, in fact, demonstrates starkly that the government has failed to establish or validly allege the existence of an imminent and substantial endangerment, as required for an action to fall under the Court’s jurisdiction, for the following reasons:

- (1) Remarkably, the government admits that “January 2016, however, was the last monthly average to exceed 0.3 $\mu\text{g}/\text{m}^3$ PM₁₀ [the MRL], and manganese levels remained below the MRL throughout 2016.” (Memorandum in Support at 8.) With emissions from the facility below the safety threshold (MRL) for over a year, it is

intended to serve as a screening tool to help public health professionals decide where to look more closely....” ATSDR, *Minimum Risk Levels* (<https://www.atsdr.cdc.gov/mrls/index.asp>).

³ DOJ’s assertion that “[t]he various arguments underlying the Manganese Interest Group’s rather hyperbolic assertion that ATSDR’s work is riddled with ‘fundamental distortions and falsehoods,’ even if true (which it is not), has nothing at all to do with EPA’s assertion that it is “impossible to make any assertion regarding the likelihood of a health risk at projected exposures” at or near the RfC concentration (and by analogy to the ATSDR MRL). See Memorandum in Support at 20, note 7.

inconceivable how the government could conclude that a “public health hazard” or “imminent and substantial endangerment” exists.

- (2) The government’s reliance on community studies, discussed on pages 6 and 19 (footnote 6) of the Memorandum in Support, is similarly misplaced. The government asserts that the case is supported by a purported “correlation” between manganese exposure and neurological symptoms as reported in certain studies published in 2015-2016, but based on emissions data from years earlier which do not reflect the acknowledged fact that emission levels have remained under the “safe” threshold (MRL) for over a year. Moreover, the studies report only an alleged “correlation” of adverse effects with manganese exposure, but are insufficient to establish any level of “causation,” which is not surprising, as explained in detail in our February 24 Comments:

Had the authors evaluated only the more biologically relevant Mn PM₁₀ concentrations, the conclusions from these studies likely would have been different. The differences in neuropsychological effects could very well be explained by other risk factors, such as difference in education levels, which were significantly different, with educational attainment being lower in East Liverpool than in Marietta (Bowler *et al.*, 2015, 2016). The authors provide no explanation as to why they used modeled TSP concentrations when modeled PM₁₀ concentrations were available.

- (3) The Memorandum in Support (at 5) repeats the false statement that the respirable fraction of manganese particulate represents 20-35% of S.H. Bell’s total suspended particulate (“TSP”) emissions. As stated in our prior comments, the 20-35% estimate is inaccurate; comparison of actual Ohio EPA PM₁₀ and TSP air monitoring data show that average Mn-PM₁₀ concentrations are less than 20% of Mn-TSP concentrations. Mn-PM₁₀ concentrations averaged 16.8% in 2015, 12.8% in 2014, and 13.9% in 2013 as a percentage of Mn-TSP. Use of the inflated 20-35% estimate results in exaggerated estimates of respirable emissions from the facility. This is important because only the respirable fraction is toxicologically relevant, as explained in our February 24 comments.
- (4) Finally, the Memorandum in Support dismisses MIG’s comments regarding the adequacy of the ATSDR September 2016 report by referencing a December 6, 2016, letter from ATSDR purporting to rebut similar criticism from the Ohio Environmental Protection Agency (“Ohio EPA”).⁴ That letter, as acknowledged in footnote 10 of MIG’s Comments, reiterates the same mistaken analysis from the September 2016 report. The attached report from Gradient provides a point-by-point rebuttal of the December 6 ATSDR letter.

⁴ The Memorandum in Support does not explain why the December 6, 2016, ATSDR letter was not provided to Ohio EPA, to which it was addressed, until the week of February 13-17, 2017.

* * * *

In conclusion, for the reasons noted above and in our February 24 comments, the Court lacks jurisdiction and should decline to enter the Consent Decree. The government's continued reliance on isolated and historic, but not recent or present, exceedances of the conservative thresholds for safety embodied in the manganese MRL and RfC to allege an "imminent and substantial endangerment," combined with distortions of the underlying monitoring data, do not support the allegations underlying the Complaint and Consent Decree. This conclusion is not based in hyperbole and is not the subject of scientific debate. Rather, as demonstrated by our prior comments, MIG's concerns reflect clear departures by the government from widely accepted understandings about manganese toxicology, manganese toxicokinetics, and agency policies, including those of both EPA and ATSDR.

MIG respectfully requests that DOJ address in detail the substantive jurisdictional arguments raised above and in MIG's previous comments for the benefit of the Court's deliberations.

Attachment

Why the Available Science Does Not Support EPA's Conclusion that the Residents of East Liverpool, Ohio are Endangered By Manganese in Air Concentrations

1. *EPA did not consider all of the available and relevant scientific data.*
 - a. EPA did not consider the “negative” Marietta vs. Mt. Vernon data published in 2011 as part of the same EPA-sponsored research program.
 - b. EPA did not consider the full range of test results generated as part of the more limited portion of the EPA-sponsored research program upon which it did rely.
 - c. EPA did not consider clear sources of bias within the test results for the limited data on which it did rely.
 - i. Testing in East Liverpool occurred two years later than testing in Marietta using *different* technicians for conducting the tests.
 - ii. The sample of subjects tested in East Liverpool, Ohio were not randomly selected, while the subjects in Marietta, Ohio were randomly selected.
 - iii. The subjects in East Liverpool, Ohio lived much closer on average to the Mn emitting facility than did the subjects in Marietta, Ohio.
 - d. EPA did not apply validated human manganese PBPK models developed as part of a separate EPA-mandated research program for manganese as it could have.
2. *The limited data on which EPA relied has clear technical flaws.*
 - a. Based on the study design, the mere association of test outcomes with modeled manganese exposures for the study subjects ***does not*** establish a causal link between manganese exposure and the test outcomes.
 - b. EPA's endangerment finding is not biologically plausible.
 - i. Validated human physiologically-based pharmacokinetic (“PBPK”) models for manganese indicate that manganese does not begin to accumulate in key target tissues in the adult brain until exposure to manganese in air reaches approximately 10 micrograms per cubic meter (“ $\mu\text{g}/\text{m}^3$ ”). Based on EPA's modeled exposure projections for East Liverpool, Ohio, the

community's average exposure to manganese was **more than 30-fold lower** than 10 $\mu\text{g}/\text{m}^3$, while even the maximum modeled manganese exposure **was 5-fold lower** than 10 $\mu\text{g}/\text{m}^3$.

- ii. EPA has separately determined that workers are not adversely affected when exposed to manganese in occupational settings as high as 142 $\mu\text{g}/\text{m}^3$. That occupational "no adverse effect level" (or "NOAEL") is nearly ***500 times higher than the average modeled community manganese exposure level***, and ***65 times higher than the maximum modeled exposure level***.
 - iii. EPA has separately determined that lifetime exposure to manganese in air at a level of 0.3 $\mu\text{g}/\text{m}^3$ is "safe" even for potentially sensitive subpopulations, such as the very old and the very young. Nearly 75 percent of the modeled manganese exposures in East Liverpool, Ohio are at or below that "safe" lifetime level of exposure, while more than 90 percent of Marietta exposures were below that value.
 - iv. Even though the Marietta subjects were exposed to higher levels of the more biologically relevant PM_{10} fraction of manganese, the Marietta subjects generally performed better than the East Liverpool subjects (at least for the few tests reported in the published literature).
3. *EPA's endangerment finding directly contradicts prior Agency determinations about the risks posed by manganese in air.*
- a. "The exposure estimates shown in Figure 3 are in the range of or exceed some candidate RfC estimates as well as the current RfC. Exceeding the RfC does not necessarily indicate that a public health risk will occur. At present, it is impossible to state whether the projected exposures above the RfC would result in an adverse health effect for either an individual or the general population. At a sufficiently high level of exposure, adverse effects would be expected to occur, first in any sensitive subpopulations, then with greater prevalence in the general population and extending to other types of effects (e.g., reproductive and/or respiratory as well as neurobehavioral effects in the case of Mn). However, the relationship between such 'sufficiently high' levels and the population exposure levels estimated by the projection methods employed here is unknown. Expressed differently, given the gap between observed or modeled effect levels and the RfC values obtained

by applying uncertainty factors of orders of magnitude, it is impossible to state whether projected population exposures would lie above or below a presumed threshold level on the actual concentration-response curve for Mn neurotoxicity. This gap between projected exposure levels and the lowest concentrations obtained by modeling the concentration-response relationship (at least, by the quantal linear model) makes it impossible to make any assertion regarding the likelihood of a health risk at projected exposure levels. However, this conclusion should not be interpreted to imply that, therefore, no health risk is expected at exposure levels exceeding the RfC.” See 59 Fed. Reg. 42,227, 42,250 (August 17, 1994) (emphasis added).

Message

From: Woollums, Cathy S [CSWoollums@berkshirehathawayenergyco.com]
Sent: 5/16/2017 8:59:14 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Regional Haze

Mandy – I left you a voice mail last Friday to follow up on regional haze issues. Please give me a call to discuss.

Regards,

Cathy

Cathy S. Woollums
Sr. Vice President, Environmental
and Chief Environmental Counsel
Berkshire Hathaway Energy
106 E. Second Street
Davenport, IA 52801
563-333-8009 (office)
563-320-1505 (cell)
cswoollums@berkshirehathawayenergyco.com

Message

From: Bowman, Liz [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C3D4D94D3E4B4B1F80904056703EBC80-BOWMAN, ELI]
Sent: 5/29/2017 6:55:53 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Jean Chemnick [jchemnick@eenews.net]
Subject: Re: reaching out on Paris

Thanks for adding me, Mandy.

Jean, on background: We will learn the president's decision on this issue, like everyone else, when he officially announces it. Thanks - Liz

Sent from my iPhone

On May 29, 2017, at 2:15 PM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Hi Jean,

Great to hear from you and I hope all is well. I've CC'd Liz Bowman from our Public Affairs team who is there best person to touch base with regarding your questions.

Best,
Mandy

Sent from my iPhone

On May 29, 2017, at 12:46 PM, Jean Chemnick <jchemnick@eenews.net> wrote:

Hi Mandy,

I met you when you were still with Inhofe. I'm hearing that EPA senior staff have been told that Trump will withdraw from Paris this week. Is that the case? And did that come directly from him, or is there anything you can pass along on background?

Thanks.

Jean Chemnick
Reporter
E&E News international beat
202-446-0429

Message

From: Paul Cicio [pcicio@carbonleaf.net]
Sent: 5/26/2017 11:34:14 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: WSJ: Anatomy of a Deep State

Hi Mandy,
I wanted to be sure you saw this WSJ story...very troubling.

Best,

Paul Cicio
President
Industrial Energy Consumers of America
1776 K Street, NW, Suite 720
Washington, DC 20006
(O) 202-223-1661
(C) 703-216-7402
www.ieca-us.org

Anatomy of a Deep State

The EPA's 'Science Integrity Official' is plotting to undermine Trump's agenda.



By
Kimberley A. Strassel
May 25, 2017 7:07 p.m. ET

On May 8 a woman few Americans have heard of, working in a federal post that even fewer know exists, summoned a select group of 45 people to a June meeting in Washington. They were almost exclusively representatives of liberal activist groups. The invitation explained they were invited to develop "future plans for scientific integrity" at the Environmental Protection Agency.

Meet the deep state. That's what conservatives call it now, though it goes by other names. The administrative state. The entrenched governing elite. Lois Lerner. The federal bureaucracy. Whatever the description, what's pertinent to today's Washington is that this cadre of federal employees, accountable to no one, is actively working from within to thwart Donald Trump's agenda.

There are few better examples than the EPA post of Scientific Integrity Official. (Yes, that is an actual job title.) The position is a legacy of Barack Obama, who at his 2009 inaugural promised to "restore science to its rightful place"—his way of warning Republicans that there'd be no more debate on climate change or other liberal environmental priorities.

Team Obama directed federal agencies to implement “scientific integrity” policies. Most agencies tasked their senior leaders with overseeing these rules. But the EPA—always the overachiever—bragged that it alone had chosen to “hire a senior level employee” whose only job would be to “act as a champion for scientific integrity throughout the agency.”

More By Kimberley Strassel

In 2013 the EPA hired Francesca Grifo, longtime activist at the far-left Union of Concerned Scientists. Ms. Grifo had long complained that EPA scientists were “under siege”—according to a report she helped write—by Republican “political appointees” and “industry lobbyists” who had “manipulated” science on everything from “mercury pollution to groundwater contamination to climate science.”

As Scientific Integrity Official, Ms. Grifo would have the awesome power to root out all these meddlesome science deniers. A 2013 Science magazine story reported she would lead an entire Scientific Integrity Committee, write an annual report documenting science “incidents” at the agency, and even “investigate” science problems—alongside no less than the agency’s inspector general.

And get this: “Her job is not a political appointment,” the Science article continues, “so it comes with civil service protections.” Here was a bureaucrat with the authority to define science and shut down those who disagreed, and she could not be easily fired, even under a new administration.

Ms. Grifo perhaps wasn’t too busy in the Obama years, since EPA scientists were given carte blanche to take over the economy. She seems to have been uninterested when EPA scientists used secret meetings and private email to collude with environmental groups—a practice somewhat lacking in scientific integrity.

She has been busier these past few months. In March the Sierra Club demanded that the EPA’s inspector general investigate whether the agency’s newly installed administrator, Scott Pruitt, had violated policy by suggesting carbon dioxide might not be the prime driver of global warming. The inspector general referred the matter to . . . the Scientific Integrity Official. So now an unelected, unappointed activist could pass judgment on whether the Senate-confirmed EPA chief is too unscientific to run his own agency. So much for elections.

There’s also that “scientific integrity” event planned for June. Of the 45 invitations, only one went to an organization ostensibly representing industry, the American Chemistry Council. A couple of academics got one. The rest? Earthjustice. Public Citizen. The Natural Resources Defense Council. Center for Progressive Reform. Public Employees for Environmental Responsibility. Reporters Committee for Freedom of the Press. Environmental Defense Fund. Three invites alone for the Union of Concerned Scientists. Anyone want to guess how the meeting will go?

This is a government employee using taxpayer funds to gather political activists on government grounds to plot—let’s not kid ourselves—ways to sabotage the Trump administration. Ms. Grifo did not respond to a request for comment.

Messrs. Pruitt and Trump should take the story as a hint of the fight they face to reform government. It’s hard enough to overcome a vast bureaucracy that ideologically opposes their efforts. But add to the challenge the powerful, formalized resistance of posts, all across the government, like the Scientific Integrity Official. Mr. Obama worked hard to embed his agenda within government to ensure its survival. Today it is the source of leaks, bogus whistleblower complaints, internal sabotage.

Pitched battle with these folks is no way to govern. The better answer is dramatic agency staff cuts—maybe start with the post of Scientific Integrity Official?—as well as greater care in hiring true professionals for key bureaucratic posts. The sooner department heads recognize and take action against that deep state, the sooner this administration might begin to drain the swamp.

Write to kim@wsj.com.

Appeared in the May 26, 2017, print edition.

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-
-

Message

From: Konkus, John [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=555471B2BAA6419E8E141696F4577062-KONKUS, JOH]
Sent: 5/9/2017 2:16:27 PM
To: Hale, Michelle [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cb99f5247ab8412fa017133839301fee-Hale, Miche]; Vance, Eric [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d7fc312a1267466188680444d66fe0e6-EVance]; Joe Arnold [JArnold@kaec.org]
CC: Bennett, Tate [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1fa92542f7ca4d01973b18b2f11b9141-Bennett, El]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: KY Electric COOP

It's Mandy actually

From: Hale, Michelle
Sent: Tuesday, May 9, 2017 10:14 AM
To: Vance, Eric <Vance.Eric@epa.gov>; Joe Arnold <JArnold@kaec.org>
Cc: Konkus, John <konkus.john@epa.gov>; Bennett, Tate <Bennett.Tate@epa.gov>
Subject: RE: KY Electric COOP

I don't have the attached photo but I reviewed the photos we sent if it is a blonde it's Tate Bennett, Deputy Associate Administrator, Office of Congressional and Intergovernmental Relations. If it is a brunette it's Mandy Gunasekara, Senior Policy Advisor to the Administrator. Hope that helps!

From: Vance, Eric
Sent: Tuesday, May 9, 2017 10:00 AM
To: Joe Arnold <JArnold@kaec.org>; Hale, Michelle <hale.michelle@epa.gov>
Cc: Konkus, John <konkus.john@epa.gov>; Bennett, Tate <Bennett.Tate@epa.gov>
Subject: RE: KY Electric COOP

Good morning Joe,
 I've added Michelle to identify the lady. Photo credit should read: USEPA Photo by Eric Vance or Photo courtesy USEPA.

Regards,
 e

Eric Vance
 Chief Photographer, USEPA
 Office of the Administrator
 1200 Pennsylvania Ave, NW
 Washington, DC 20640
 WJC-North, Room 6330K

202.564.2655 office
 202.689.9393 mobile

Link to Office of Multimedia photo galleries, accessible from within EPA's network.

<http://intranet.epa.gov/media/>

From: Joe Arnold [<mailto:JArnold@kaec.org>]
Sent: Tuesday, May 09, 2017 9:53 AM
To: Vance, Eric <Vance.Eric@epa.gov>
Cc: Konkus, John <konkus.john@epa.gov>; Bennett, Tate <Bennett.Tate@epa.gov>
Subject: FW: KY Electric COOP

Hi Eric, John and Tate:

Thank you for providing the photos of Kentucky electric co-ops' visit with the EPA Administrator.

For cutline purposes, could you provide the name and title/position of the woman seated next to Scott Pruitt? Also, who is the photographer for photo credit?

Thanks again,

Joe

Joe Arnold
Vice-President of Strategic Communications
Kentucky Association of Electric Cooperatives
Kentucky Living magazine
KentuckyLiving.com
jarnold@kaec.org
(502) 815-6372
(502) 905-8168 mobile



From: Vance, Eric [<mailto:Vance.Eric@epa.gov>]
Sent: Wednesday, May 3, 2017 8:46 AM
To: Konkus, John <konkus.john@epa.gov>; Bennett, Tate <Bennett.Tate@epa.gov>; Joe Arnold <JArnold@kaec.org>
Subject: KY Electric COOP

Hi Tate, John and Joe,
Here's a re-send of the files from your visit.

Kind regards,
e

Eric Vance
Chief Photographer, USEPA
Office of the Administrator

1200 Pennsylvania Ave, NW
Washington, DC 20640
WJC-North, Room 6330K

202.564.2655 office
202.689.9393 mobile

Link to Office of Multimedia photo galleries, accessible from within EPA's network.

<http://intranet.epa.gov/media/>

From: Vance, Eric

Sent: Tuesday, April 25, 2017 1:54 PM

To: Konkus, John <konkus.john@epa.gov>; Orquina, Jessica <Orquina.Jessica@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>

Cc: Hull, George <Hull.George@epa.gov>; Ron Slotkin <Slotkin.Ron@epa.gov>; Hale, Michelle <hale.michelle@epa.gov>

Subject: RE: Social media today

Photos from Kentucky Association of Electric Cooperatives meeting.

Eric Vance
Chief Photographer, USEPA
Office of the Administrator
1200 Pennsylvania Ave, NW
Washington, DC 20640
WJC-North, Room 6330K

202.564.2655 office
202.689.9393 mobile

Link to Office of Multimedia photo galleries, accessible from within EPA's network.

<http://intranet.epa.gov/media/>

From: Konkus, John

Sent: Tuesday, April 25, 2017 10:07 AM

To: Orquina, Jessica <Orquina.Jessica@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>

Cc: Vance, Eric <Vance.Eric@epa.gov>; Hull, George <Hull.George@epa.gov>

Subject: RE: Social media today

Sorry please see this document attached.

From: Orquina, Jessica

Sent: Tuesday, April 25, 2017 9:23 AM

To: Konkus, John <konkus.john@epa.gov>; Hart, Daniel <Hart.Daniel@epa.gov>

Cc: Vance, Eric <Vance.Eric@epa.gov>; Hull, George <Hull.George@epa.gov>

Subject: RE: Social media today

Hi John,

I don't see any meetings highlighted on the document you sent. Which ones would you like us to focus on?

Thanks! Jess

Jessica Ann Orquina
Associate Director
Office of Web Communications
U.S. Environmental Protection Agency
Email: orquina.jessica@epa.gov
Office: 202-564-0446
Mobile: 202-322-8369

From: Konkus, John

Sent: Tuesday, April 25, 2017 9:17 AM

To: Hart, Daniel <Hart.Daniel@epa.gov>; Orquina, Jessica <Orquina.Jessica@epa.gov>

Cc: Vance, Eric <Vance.Eric@epa.gov>

Subject: Social media today

Hi gang: can you please tee up some draft social media posts for the highlighted meetings attached? Eric is set to take photos for each.

Thank you!

Message

From: Wells, Erskine [EWells@bgrdc.com]
Sent: 5/10/2017 1:16:20 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Washington, Valerie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9d031c02ce3a416dad0d421ee998d5a3-VWASHING]
Subject: RE: Meeting Request: Energy Star

Mandy, thank you so much! Valerie, I feel confident our group is available all morning on the 18th, but will confirm now.

-Erskine

Erskine Wells
Principal
BGR Government Affairs, LLC

BGR GROUP
The Homer Building
Eleventh Floor South
601 Thirteenth Street, NW
Washington, DC 20005
Direct: (202) 661-6368
Cell: (703) 725-1066
www.bgrdc.com

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Wednesday, May 10, 2017 9:12 AM
To: Wells, Erskine <EWells@bgrdc.com>
Cc: Washington, Valerie <Washington.Valerie@epa.gov>
Subject: RE: Meeting Request: Energy Star

Hey Erskine,
Great to hear from you. I'm happy to set up a meeting. I'm cc'ing Valerie Washington who can help with the logistics.

Valerie, it looks like I've got time mid-morning on the 18th – let's set something up for then.

Best,
Mandy

From: Wells, Erskine [mailto:EWells@bgrdc.com]
Sent: Wednesday, May 10, 2017 8:45 AM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Meeting Request: Energy Star

Mandy,

I hope you are well. BGR represents the US Green Buildings Council, and several of their member companies will be in town next week. Would you or the appropriate EPA person have time to visit with us regarding the Energy Star program? The group should be available from Tuesday, 16 May until Thursday, 18 May.

Attending the meeting will be representatives from the following USGBC members: Kohler, Real Estate Roundtable, Schneider Electric and BASF. Purpose of the meeting is to express their support for the Energy Star program.

Thanks for the consideration of this request. Feel free to call me to discuss further: 703-725-1066

-Erskine

Erskine Wells

Principal

BGR Government Affairs, LLC

BGR GROUP

The Homer Building

Eleventh Floor South

601 Thirteenth Street, NW

Washington, DC 20005

Direct: (202) 661-6368

Cell: (703) 725-1066

www.bgrdc.com

Message

From: Rebecca Combs-Dulaney [rcombsdulaney@gmail.com]
Sent: 5/24/2017 8:13:01 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Dominguez, Alexander [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5ced433b4ef54171864ed98a36cb7a5f-Dominguez,]
CC: Andrew Covington [acovington@allenes.com]; mike evans [mike-evans@sssvc-inc.com]; Tommy Dulaney [Tommy-Dulaney@sssvc-inc.com]; Cole Cardwell [cole-cardwell@sssvc-inc.com]
Subject: Today's call

Mandy and Alex,

Many thanks for your time today, but most of all for your assistance in helping to move us closer to a remedy for our reporting issue. Andrew and I felt much more optimistic after our conversations with you. As I stated we would like to resolve this to the benefit of all concerned. I look forward to hearing from you.

Rebecca Combs-Dulaney
Vice President
Structural Steel Services, Inc.
PO BOX 2929
6210 St. Louis St.
Meridian, MS 39302
601-616-4428 (cell)
601-483-5475 (fax)
rcombsdulaney@gmail.com

Message

From: Ghanta, Venu G [Venu.Ghanta@duke-energy.com]
Sent: 5/9/2017 8:49:43 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: touching base

Hi Mandy-

It was good to hear your talk at the ICAC Clean Air Summit last week. I was wondering if you had some time to chat about some of the issues on your plate and how Duke Energy could assist going forward.

Happy to meet you whenever/wherever is most convenient.

Hope all is going well.

Regards, Venu

Venu Ghanta
Federal Environmental & Energy Policy Director
Duke Energy
325 7th Street NW, Suite 300, Washington, DC 20004
Office: 202-824-8013
Cell: 202-699-2337
venu.ghanta@duke-energy.com



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

May 12, 2017

OFFICE OF
AIR AND RADIATION

Heath Huddleston, Financial Grants Manager
The Council of State Governments
1776 Avenue of the States
Lexington, KY 40511-8482

Dear Mr. Huddleston:

Thank you for the grant proposal and application submitted on September 30, 2016 by the Council of State Governments on behalf of the Association of Air Pollution Control Agencies (AAPCA) to coordinate activities of state and local air quality agencies. The Environmental Protection Agency (EPA) acknowledges the service that AAPCA provides to its member agencies.

I apologize for the delay in our response. Unfortunately, the agency is not able to consider your current proposal because it does not meet the 'unique or innovative' requirements in EPA's Policy for Competition of Assistance Agreements for unsolicited proposals.

Please feel free to contact Margaret Walters on my staff at (202) 564-4107 if you have further questions regarding agency grant policy, or would like to discuss further the potential for funding from EPA.

Sincerely,

A handwritten signature in black ink, appearing to read "Omayra Salgado".

Omayra Salgado, Director
Office of Program Management Operations

cc: Jason E. Sloan, Policy & Membership Associate, Association of Air Pollution Control Agencies
Clint Woods, Executive Director, Association of Air Pollution Control Agencies

Message

From: Carrie Jenks [cjenks@mjbradley.com]
Sent: 5/16/2017 1:45:35 PM
To: Dravis, Samantha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ece53f0610054e669d9dffe0b3a842df-Dravis, Sam]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: MJBA Permitting and Infrastructure - EPA Letter and White Paper
Attachments: MJB&APermittingInfrastructure_EPAREgReform_Letter.pdf

Thank you for taking the time to meet with us last week. We submitted the attached comments to EPA's Regulatory Reform Docket yesterday and posted a white paper with more detailed principles for a WOTUS rulemaking here:

http://www.mjbradley.com/sites/default/files/MJBAPermittingInfrastructure_WOTUSPrinciples_WhitePaper.pdf

Please let us know if you have any questions.

Thank you,
Carrie

Carrie F. Jenks
Senior Vice President
M.J. Bradley & Associates LLC
47 Junction Square Drive
Concord, MA 01742
cjenks@mjbradley.com
Direct: (978) 405-1265
Cell: (202) 236-0353
Fax: (978) 369-7712

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CONCORD, MA - WASHINGTON, DC

47 Junction Square Drive
Concord, MA 01742

978-369-5533
www.mjbradley.com

May 15, 2017

Sarah Rees
U.S. Environmental Protection Agency
Office of Regulatory Policy and Management
1200 Pennsylvania Avenue, N.W.
Mail Code 1803A
Washington, D.C. 20460
(submitted via regulations.gov)

Re: Regulatory Reform Docket in response to Executive Order 13777 (Input on regulations that may be appropriate for repeal, replacement, or modification)

Dear Ms. Rees:

The MJB&A Permitting and Infrastructure Coalition appreciates the opportunity to comment on the regulatory reform process initiated by Executive Order 13777, seeking input on regulations that may be appropriate for repeal, replacement, or modification. MJB&A Permitting and Infrastructure Coalition member companies¹ collectively engage the Administration and agencies on potential permitting modernization as well as regulatory and legislative opportunities to ensure energy infrastructure projects can proceed in a timely and cost-effective manner.

Consistent with Executive Order 13778 and the Notice of Intention published by EPA, we agree that EPA should review the Clean Water Rule, which defined 'Waters of the United States'.² We support EPA's process to develop a new rule that can be implemented consistently for all regions of the U.S. and that is legally durable. The electric sector, including our member companies, have long advocated for EPA to issue a rule that provides clear direction on which waters are jurisdictional and which waters are not. The current regulations, guidance, and case law have led to different interpretations in different regions of the U.S.

Given the opinions in *Rapanos v. United States*, 547 U.S. 715 (2006), we urge EPA to take comment on how best to define a physical surface connection between a wetland and a traditional navigable water and explore if

¹ The MJB&A Permitting and Infrastructure Coalition member companies include: Dominion Energy, Entergy Corporation, NextEra Energy, and PG&E Corporation. While we focus primarily on the Waters of the United States rule in these comments, the member companies are submitting comments on other regulations that may be appropriate for repeal, replacement, or modification through individual letters and through additional organizations.

² Clean Water Rule: Definition of "Waters of the United States"; Final Rule, 80 FR 37,054 (June 29, 2015).

there are ways to clearly define Waters of the U.S. that reflects the federal and state partnership. To supplement this letter, we have developed a white paper that frames the key areas we think a final rule should address and that proposes key definitions for consideration.³ While we think navigable waters, tributaries, and adjacent wetlands are Waters of the U.S., the final definitions for these terms and others are critical to make that clear.

Recognizing the existing case law and that some areas will need case-by-case evaluations, we propose the following key principles that could guide jurisdictional determinations:

- Any Waters of the U.S. must have a physical surface connection that has a predictable flow to a navigable water in order to demonstrate a significant nexus based on Justice Scalia's opinion and Justice Kennedy's opinion.
- By contrast, ephemeral streams, tributaries, and washes with low volume, infrequent, and short flow duration periods on an annual basis are not significantly connected to a navigable water. Such streams and tributaries that are absent of hydric soils, hydrophytic vegetation, or lifecycle dependent aquatic species are not significantly connected to a navigable water. Wetlands that are solely dependent on groundwater or precipitation for inundation are not jurisdictional.

As part of a new rule, there are a number of terms that we would encourage EPA to propose definitions for comment. For example, the definition of Waters of the U.S. must make clear that waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act, are not Waters of the U.S. One of our key concerns with the prior rule was that the regulatory text failed to make clear that these systems are not Waters of the U.S.

It is also important for the definition of tributary to make clear what is not jurisdictional. As an example, the definition might say:

the water must be physically characterized by the presence of a bed and banks and ordinary high water mark, which contributes frequent and consistent duration of flow, either directly or through another water, to jurisdictional waters provided that hydric soils, hydrophytic vegetation, or lifecycle dependent aquatic species are present. Man-made structures with engineered bed, banks, and top of banks that are not created from jurisdictional waters or whose construction pre-dates the Clean Water Act should not be considered a jurisdictional tributary.

If significant revisions are not accomplished through the rulemaking process and the expanded jurisdiction created under the final rule remains relatively unchanged to the rule finalized in 2015, we would continue to urge EPA and the Army Corps of Engineers to review the current nationwide permits to increase higher acreage thresholds for permanent discharges to jurisdictional waters.

In addition to these comments on the Waters of the U.S., we look forward to continued engagement with the Administration on other issues that affect the permitting process for energy projects. We continue to have concerns with the time it takes for permitting decisions to be made for energy infrastructure projects. These delays can significantly impact the economics of a project. While we recognize that not all of our concerns can be addressed through EPA's authority, EPA's engagement in the Administration's process to identify opportunities for streamlining permitting will be important.

³ The MJB&A Permitting and Infrastructure White Paper on Principles for a Revised Waters of the U.S. Rulemaking is available for download from the MJB&A website at: http://www.mjbradley.com/sites/default/files/MJBAPermittingInfrastructure_WOTUSPrinciples_WhitePaper.pdf

If you have any questions about these comments, please do not hesitate to contact me at cjenks@mjbbradley.com.

Sincerely,

Carrie Jenks

MJB&A Permitting and Infrastructure Coalition

cc:

Samantha Dravis, EPA

Brittany Bolen, EPA

Sarah Greenwalt, EPA

Mandy Gunasekara, EPA

Message

From: Donald K. Shandy [don.shandy@crowedunlevy.com]
Sent: 5/25/2017 4:54:02 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Brown, Byron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9242d85c7df343d287659f840d730e65-Brown, Byro]
Subject: Fitzgerald - EPA Procedural Options
Attachments: EPA Procedural Options.docx

Mandy,

Enjoyed our visit earlier this week. Attached is a document with a couple of preferred procedural options for EPA to use to address the glider vehicle issue in the Phase 2 GHG Heavy Duty Vehicle Rule. I'm in town next week and would like to stop by on Wednesday, May 31st for 15 – 30 minutes to discuss. Is that possible? Feel free to call my cell (405-625-5700). Have a great holiday weekend.

Thanks Don



Donald K. Shandy
Attorney at Law

Braniff Building
324 N. Robinson Ave., Ste. 100
Oklahoma City, OK 73102

direct line: 405.234.3205
direct fax: 405.272.5250
don.shandy@crowedunlevy.com
[v-card](#) · [bio](#) · [website](#)

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Message

From: D'Angelo, Wayne J. [WDAngelo@KelleyDrye.com]
Sent: 5/11/2017 11:55:55 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Steel Manufacturers Association

Mandy, After sending the NYT article I went back to look at the speaking times we were discussing and noticed a potential issue. I should have noticed it earlier so I apologize. While SMA would still be glad to have you at noon on May 25th if that is the only time you can do, that is the time the meeting is scheduled to conclude. We can always extend the meeting but I fear that we would lose much of the audience to previously scheduled flights. If you have some flexibility, we would be glad to host you at any time on May 24 from 10:30 to 5 or any time on May 25th from 8:30 to 11. SMA's "keynote" slot is typically lunch on May 24, and you more than qualify as a keynote, but we would welcome you whenever you can do it.

Thank you and I again apologize for creating the confusion.
 -Wayne

Wayne D'Angelo

Kelley Drye & Warren LLP
 (202) 342-8525 | wdangelo@kelleydrye.com

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Monday, May 08, 2017 9:13 AM
To: D'Angelo, Wayne J. <WDAngelo@KelleyDrye.com>; Skelton, Crystal <CSkelton@KelleyDrye.com>
Subject: RE: Steel Manufacturers Association

Thank you, Crystal. Great catching up with you and Shane – I can't wait until your DC visits to become more regular!!

Wayne,
 Noon on the 25th works great. How long do I need to speak and do you want Q&A?
 Also, for a pre-meeting, I'm very flexible next Thursday (5/18) and Friday 5/19) mornings around 10 or 10:30. Either of those times work for you?
 Best,
 Mandy

From: D'Angelo, Wayne J. [mailto:WDAngelo@KelleyDrye.com]
Sent: Monday, May 8, 2017 8:03 AM
To: Skelton, Crystal <CSkelton@KelleyDrye.com>; Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: RE: Steel Manufacturers Association

Thank you Crystal! And thank you Mandy! If you can swing an appearance on May 24th or even the morning of May 25th, I can assure you a sizable, friendly, and very interested audience representing almost 80% of domestic steel capacity. You can speak on whatever issue you would like and there is no risk of being too specific or too generic. This group is made up of environmental managers and they are keen on getting any

information on EPA's regulatory outlook and approach to compliance. Just seeing someone from the new administration and hearing that there is an openness to listening to industry and take a fresh look at some issues will really resonate with the group.

I'm happy to answer any questions and help facilitate in any way. Thank you both again,
Wayne

Wayne D'Angelo

Kelley Drye & Warren LLP

(202) 342-8525 | wdangelo@kelleydrye.com

From: Skelton, Crystal [<mailto:cskelton@kelleydrye.com>]

Sent: Friday, May 05, 2017 11:23 AM

To: gunasekara.mandy@epa.gov

Cc: D'Angelo, Wayne J. <WDAngelo@KelleyDrye.com>

Subject: Steel Manufacturers Association

Hi Mandy,

So great seeing you last night, and can't wait to see you again in June!

As I mentioned last night, the Steel Manufacturers Association would like to invite you to speak at their annual members meeting on May 24th during the keynote slot at lunch (noonish), or if that doesn't work, anytime during the 24th or until their meeting concludes mid-day on the 25th. The members are interested in hearing about what they can expect under this Administration's EPA and how they can best assist you and Administrator Pruitt.

The group also would like to have a brief meeting with you and a select few of the members ahead of the May 24th meeting to discuss how SMA can best help EPA, and how it can point the members to topics that would be most helpful for you.

I am copying Wayne D'Angelo, who you met a few weeks ago. He is working with SMA and will be coordinating the meetings on their behalf.

Best,
Crystal

CRYSTAL SKELTON

Senior Associate

Kelley Drye & Warren LLP

Tel: (310) 712-6467

cskelton@kelleydrye.com

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Message

From: Lyons, Troy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=15E4881C95044AB49C6C35A0F5EEF67E-LYONS, TROY]
Sent: 5/31/2017 1:29:34 PM
To: Susan Bodine [Personal Email / Ex. 6]
CC: Palich, Christian [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=330ad62e158d43af93fcbbece930d21a-Palich, Chr]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: questions

Looping in Mandy

-----Original Message-----

From: Susan Bodine [Personal Email / Ex. 6]
Sent: Wednesday, May 31, 2017 7:57 AM
To: Lyons, Troy <lyons.troy@epa.gov>
Cc: Palich, Christian <palich.christian@epa.gov>
Subject: questions

For the inevitable climate question: what GHG related rules are currently in effect? Light duty cars and trucks, GHG reporting rule. PSD and Title V permits if already a major source.

What else?

> On May 30, 2017, at 10:28 PM, Lyons, Troy <lyons.troy@epa.gov> wrote:
 >
 > Thanks, Susan. We will get this clearer through the WH.
 >
 > Christian is working w OECA and should have Q&As ready for your review.
 >
 >
 > Sent from my iPhone
 >
 >> On May 30, 2017, at 10:25 PM, Susan Bodine [Personal Email / Ex. 6] wrote:
 >>
 >> <Bodine.Confirmation.Statement.SEPW.0617.doc>

Message

From: Max Hamel [mhamel@agenda-global.com]
Sent: 5/5/2017 9:08:18 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: Point of Obligation-Introduction

Hi Mandy -

I meant to mention that I would be in your office yesterday on another issue in case you had some time but we ended up running long anyway.
I know y'all have a ton on your plate but thought I would try again to see if there was convenient time to talk. Pro Petroleum had the opportunity to meet with Mike Cantanzaro at the WH and one of the issues that came up at the end of that meeting was around their contracts with refiners that demonstrate how fuel is priced differently for pipeline shippers & at the rack (with RIN costs being incorporated). We didn't have the opportunity to show Mike the new contracts (as of January) that are in place but thought that might be a good place to start with you.

Thanks again and have a great weekend.

Max

Max Hamel | 703.283.4792

On 4/28/17, 5:11 PM, "Max Hamel" <mhamel@agenda-global.com> wrote:

Thanks Guy - moving you to bcc.

Mandy - would love to try to find a time to get the CEO of Pro in to see you. As Guy mentioned, they are a VLO jobber as well as being a terminal operator in (3) states which gives them a unique perspective on the PoO issue as well as being in the position to share specific data on how policy shifts could impact fuel prices as it moves from bulk pipeline, to rack to retail.

Pro is based in Texas. I'm here in DC. Thanks in advance.

Max

Max Hamel | 703.283.4792

On 4/28/17, 1:02 PM, "Beeman, Guy M. (MPC)" <gmbeeman@marathonpetroleum.com> wrote:

Good afternoon Mandy,

I would like to introduce you to Max Hamel via email. Max helps out MPC on some of our point of obligation work and is a just a overall great guy that you should know.

He has a client, Pro Petroleum, that operates pipeline-connected fuel storage and truck-loading terminals in Phoenix, Arizona, Las Vegas, Nevada and Texas. Pro Petroleum has a very unique view on what happens to the market when the obligated party is placed at the terminal as they were in CA when they started their LCFS (CA places obligation at terminal). They can speak directly to the financial impact to the small terminal operators and demonstrate the RIN price is already captured in the product price paid to current obligated parties (they are VLO jobbers). I think you will find their information very useful.

I just wanted to connect you and Max and will let him take it from here.

Have a great weekend.

Thanks,

Guy

Sent from my iPhone

Message

From: Mark Carr [markc@channeldesigngroup.com]
Sent: 5/25/2017 4:46:02 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: How I spent my morning

With the Administrator! Small meeting of the US Oil and Gas Assoc. He did well; Sec Zinke followed immediately thereafter.

During Q&A, I urged your guy to keep pruning the science advisory panel incumbents. Shouldn't have grant recipients at all. Massively conflicted incentives.

Mark J Carr
Channel Design Group
314-616-6957
DC - NOLA - StL

Want your kids outside more? Go to www.RiverWorksDiscovery.org

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Message

From: Conrad Lass [conrad.lass@ogilvygr.com]
Sent: 5/16/2017 8:28:43 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Beck, Nancy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=168ecb5184ac44de95a913297f353745-Beck, Nancy]; Greenwalt, Sarah [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6c13775b8f424e90802669b87b135024-Greenwalt,]
Subject: Re:

Thank you, Mandy. I really appreciate your help and assistance.

Hi Nancy and Sarah. As Mandy mentioned, my name is Con Lass and I work with Ecolab, which is a St. Paul-based company. Their VP of government relations, Nancy Levenson, would appreciate the opportunity to meet with you to briefly discuss their antimicrobial and water management businesses. Would you have time available on any of the dates below? Thank you in advance for your time and consideration of this meeting request. I really appreciate it.

Best regards,

Con Lass
Ogilvy Government Relations

5/23 from 3-4:30pm
5/24 from 4-5pm
5/25 from 9:30-11:30am

From: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Sent: Tuesday, May 16, 2017 3:50 PM
To: Conrad Lass
Cc: Beck, Nancy; Greenwalt, Sarah
Subject: RE:

Hi Con,
Great to hear from you. Based on the topics to be discussed in your meeting I'd like to connect you with our new chemicals expert, Nancy Beck, and our water expert, Sarah Greenwalt.

Nancy and Sarah, Con is a good friend and is looking to bring in Nancy Levenson of Ecolab to chat about their antimicrobial and water efficiency businesses.

I hope you can find a time to connect.

Best,
Mandy

From: Conrad Lass [mailto:conrad.lass@ogilvygr.com]
Sent: Tuesday, May 9, 2017 11:51 AM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Re:

Hi Mandy,

It was good to see you yesterday! I know you're extremely busy, but I was wondering if you might have a few minutes during the dates and times below to meet with Nancy Levenson of Ecolab to briefly chat about their antimicrobial and water efficiency businesses? If there is better point of contact for these issues I'm happy to reach out to that person as well. Thank you again for your time and assistance. I really appreciate it.

Best,

Con

From: Conrad Lass
Sent: Friday, May 5, 2017 1:15 PM
To: Gunasekara, Mandy
Subject:

Hello Mandy,

Happy Friday. I hope all is well with you. I am reaching out to see if you have any time during the dates below to meet with Nancy Levenson, who is VP of Government Relations and runs the DC office for Ecolab. She would like to meet you and have the opportunity to discuss PRIA, Ecolab's antimicrobial business as well as their Nalco Water management and efficiency business. Would any of these dates work for you to meet with her? Thank you in advance for your time and consideration of this meeting request. I really appreciate it.

Best regards,

Con

5/17 from 11:30-2:30
5/18 from 9-12
5/23 from 3-4:30pm
5/24 from 4-5pm
5/25 from 9:30-11:30am

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Message

From: D'Angelo, Wayne J. [WDAngelo@KelleyDrye.com]
Sent: 5/11/2017 11:45:45 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Steel Manufacturers Association

Mandy, Pardon the brief interruption but I wanted to share a great NYT article (I can't believe I wrote that) on Nucor Steel, SMA's largest member companies. Not only does the article have some pretty good pictures of the inside of a meltshop, it provides a great portrayal of the types of jobs the steel industry provides and the loyalty of the people who take those jobs. I'm glad you will be able to meet some of them. Thanks again for agreeing to come to SMA's meeting.

<https://mobile-nytimes-com.cdn.ampproject.org/c/s/mobile.nytimes.com/2017/05/11/business/economy/steel-nucor-trump-policy.amp.html>

-Wayne

KELLEY
DRYE

Wayne D'Angelo

Kelley Drye & Warren LLP
Washington Harbour, Suite 400
3050 K Street, NW, Washington, DC 20007
o: (202) 342-8525 | m: (202) 329-3977
wdangelo@kelleydrye.com
[Website](#)

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Message

From: Jennifer McDowell [jmcowell@mema.org]
on behalf of Ann Wilson [awilson@mema.org]
Sent: 5/10/2017 12:55:23 PM
CC: Briana Huxley [bhuxley@mema.org]
Subject: Join Us Next Wednesday for MEMA's 2017 Technology Fair!
Attachments: MEMA Technology Fair Invite 2017.pdf

Experience the Latest Innovations in Vehicle Supplier Technology at MEMA's Technology Fair!

Wednesday, May 17, 2017
Rayburn Cafeteria | Rayburn House Office Building
6:00 – 8:00 PM

Please RSVP by Monday, May 15 to Briana Huxley at advocacy@mema.org or 202-312-9242.

We look forward to seeing you there!

Ann

Ann Wilson
Senior Vice President of Government Affairs
Motor & Equipment Manufacturers Association
1030 15th St. NW
Suite 500 East
Washington, DC 20005

(202) 312-9246 (office)
(202) 320-7293 (cell)

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PLEASE RSVP BY MONDAY, MAY 15 TO BRIANA HUXLEY AT ADVOCACY@MEMA.ORG OR 202-312-9242

THIS EVENT IS DESIGNED TO COMPLY WITH HOUSE AND SENATE ETHICS RULES



Message

From: Gary Hart [gary@cleanairmarkets.com]
Sent: 5/8/2017 3:59:15 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Friend of Mike McKenna / Southern Co Retiree - Manager of Emissions Trading
Attachments: Hart EPW 070909 CAIR.pdf

Amanda:

I also spoke at the East Coast Fuel Conf years ago on the CAIR Rule – Allison Wood, Seth and many others that were there in Orlando are friends

I am speaking to approx. 400 coop/muni execs in Indy on June 1

When Mike C was on EPW I testified before Carper on the CAIR Rule

Would love to chat or swap emails with you regarding issues on Administrators Pruitt's agenda that I could discuss with these smaller utility guys to assist in their LT planning efforts

Also sent a note to Mr. Wager on this same issue (below)

Thanks

Gary R Hart – Owner
 Clean Air Markets LLC
 2733 Paden Trail
 Vestavia, AL 35226-2851
 205 516 4294
gary@cleanairmarkets.com

From: Gary Hart [mailto:gary@cleanairmarkets.com]
Sent: Friday, May 5, 2017 9:41 AM
To: wagner.kenneth@epa.gov
Subject: Alabama Coal Coop Letter / Speaking to 400+ coop and muni executives - June 1

Mr. Wagner:

The Alabama Coal Coop reached out to me to assist them in crafting their recent letter to you on the impacts of the CCR and other EPA Regulations. I have known them for a long time and count Randy and Chris as friends.

I worked for the Southern Company for almost 30 years and retired as their Mgr. of Emissions Trading – where at one time I managed the largest bank of emission allowance instruments in the country. I now do environmental compliance consulting.

- **The reason for my short note is that the ACES Energy Group (coops and munis) is again holding their annual managers forum on June 1 in Indianapolis for utility coop and muni executives. Last year I addressed 438 executives on the EPA CPP.**
- **ACES has again asked me to address this group on June 1, 2017 in Indianapolis.**

- I would be grateful for the opportunity to chat with you briefly before my presentation to these coop and muni executives so I might pass on some of the thoughts of Administrator Pruitt's Office on the key goals and initiatives of the EPA as it impacts the utility sector in the future.

•

I have testified before the Senate EPW Clean Air have worked with the EPA staff for many years, especially making the implementation of the US Acid Rain program a success.

One of my long- time friends in DC Mike McKenna who was on the Trump Transition team for Energy Issues – you can check me out with Mike at 703 801 6587 He has done lots of work for AEP, Southern Co, Williams Energy, GDF Suez in Houston, PSEG and many others and has appeared on Fox News and has tons of contacts on various senate and house committees. Mike is a really great resource for the utility/energy community in DC. You can also touch base with EPA staff such as Reid Harvey at EPA CAMD who has known me for some time.

Again, if you have the time, I would welcome the opportunity to chat at your convenience and be happy to pass on any key points or messages to this group of utility executives that you think they should hear.

Thanks,

Gary R Hart – Owner / President
Clean Air Markets LLC
2733 Paden Trail
Vestavia, AL 35226-2851
205 516 4294
gary@cleanairmarkets.com

Message

From: McCollum, Jonathan [jim@dhclegal.com]
Sent: 5/25/2017 4:47:16 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: New York Building Congress - Meeting Request on June 7th

Thanks, Mandy.

I spoke with Luke Holland and he's pushing for the meeting to take place. I'll keep you posted.

Also, I'm signed up for the 11:30am Orange Theory class on Sunday. I can go earlier in the day if that is better with your schedule (there is a class every hour starting at 8:30am).

I hope you can make it!!

Jonathan

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Thursday, May 25, 2017 12:19 PM
To: McCollum, Jonathan
Subject: Re: New York Building Congress - Meeting Request on June 7th

Hey Jonathan,
The best person to contact is Luke Holland (Luke_holland@inhofe.senate.gov). He's The senators COS. You can tell him I sent you his way if that helps.

Best,
Mandy

Sent from my iPhone

On May 24, 2017, at 10:35 AM, McCollum, Jonathan <jim@dhclegal.com> wrote:

Hi Mandy,

I hope you're doing well.

I wanted to see if you would be able to encourage Senator Inhofe to take a meeting on June 7th with the New York Building Congress (NYBC).

As the Chairman of the Subcommittee on Transportation and Infrastructure, we believe that a meeting with this select delegation of 19 CEO's from the country's largest construction firms would be very productive.

I've attached an official meeting request from the NYBC and below you will find the list of attendees.

This group would like to offer their assistance to Senator Inhofe and be a resource moving forward. The 19 CEO's participating in this fly-in are responsible for 100% of the New York and New Jersey regions infrastructure projects and involved in most large projects around the country.

Your assistance is greatly appreciated.

Thank you,
Jonathan

<image001.jpg>

Jonathan McCollum

Director, Federal Government Relations Group

Davidoff Hutcher & Citron LLP

201 Massachusetts Avenue NE, Suite C-5, Washington, DC 20002

605 Third Avenue, New York, NY 10158

Tel: 202.347.1117

Fax: 202.638.4584

Email: jim@dhclegal.com

Website

From: McCollum, Jonathan

Sent: Monday, May 22, 2017 12:41 PM

To: wendi_price@inhofe.senate.gov; amanda_hall@inhofe.senate.gov; luke_holland@inhofe.senate.gov

Subject: New York Building Congress - Meeting Request on June 7th

Wendi, Amanda & Luke,

I hope you're doing well and had a nice weekend.

I wanted to flag for you the upcoming delegation visit by a select group of New York Building Congress Members on June 7th that will be focused on Transportation and Infrastructure.

This delegation will be led by Richard Cavallaro, President and CEO of Skanska USA and includes 19 CEO's of the largest construction and engineering firms in the country. This select group is responsible for 100% of the New York and New Jersey Regions infrastructure projects and are involved in most large-scale projects throughout the country.

We are starting to coordinate with the Secretary's Office at the Dept. of Transportation, the U.S. Chamber of Commerce and the White House National Economic Council on meeting times, but hope to make a meeting with Senator Inhofe a central focus of the day.

The list of 19 confirmed attendees for the New York Building Congress Infrastructure Delegation include:

1. Richard Cavallaro, President and CEO, Skanska USA, Inc.
2. Carlo A. Scissura, Esq., President and CEO, New York Building Congress
3. Greg Kelly, President and CEO – U.S., WSP|Parsons Brinckerhoff
4. Milo Rivero, President and CEO, STV Group, Inc.
5. Mike Sweeney, President – Northeast Division, HNTB
6. Eli Khoury, Senior Vice President, HDR
7. Chris Ward, SVP/Chief Executive, AECOM

8. Chris Larsen, Principal, Halmar International
9. Frank Sciamé, Chairman and CEO, Sciamé Construction LLC
10. Craig Ivey, President, Con Edison of New York
11. Jill Lerner, Principal, Kohn Pedersen Fox Associates, P.C.
12. Henry Kuykendall, Vice President- New York, Delta Airlines
13. Peter Kalikow, President, H.J. Kalikow & Co., LLC
14. Kenneth Daly, President, National Grid New York
15. Thomas Scarangelo, Chairman/CEO, Thornton Tomasetti
16. William Gilbane, III, Senior Vice President, Gilbane Building Company
17. Ralph Esposito, President, Lend Lease (US) Construction LMB, Inc.
18. Mike Carroll, CEO and President, CHA Companies
19. Peter Tully, President, Tully Construction

I've attached a meeting request from Carlo Scissura, President of the New York Building Congress.

Please let me know if you need any additional information and I look forward to working with all of you to ensure a successful meeting.

Thank you,
Jonathan

<image001.jpg>

Jonathan McCollum

Director, Federal Government Relations Group

Davidoff Hutcher & Citron LLP

201 Massachusetts Avenue NE, Suite C-5, Washington, DC 20002

605 Third Avenue, New York, NY 10158

Tel: 202.347.1117 Cell: 303.898.6422

Fax: 202.638.4584

Email: jim@dhclegal.com

Website

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<Inhofe-17-05-19.pdf>

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Message

From: Gunasekara, Surya [Surya@mail.house.gov]
Sent: 5/18/2017 1:18:55 PM
To: 'ccunningham@secureenergy.org' [ccunningham@secureenergy.org]
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: CAFE Standards

Hey Chuck,

Good seeing you last night.

As promised, I have connected you with my wife Mandy. She can direct you to the appropriate contact depending on your specific requests.

Surya

Surya G. Gunasekara
Chief of Staff
Congressman Jim Renacci (16th-OH)
328 Cannon House Office Building
Washington, DC 20515
O: (202) 225-3876
F: (202) 225-3059



[Click here to receive Jims's weekly email updates](#)

Message

From: info@eastfuelconf.com [info@eastfuelconf.com]
Sent: 5/11/2017 3:46:01 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: EFBC 2017 thank you, evaluation request, presentations online
Attachments: Conference Evaluation Form 2017_.docx

Dear Mandy Gunasekara, Environmental Protection Agency,

Thank you very much for attending the 46th Annual Eastern Fuel Buyers Conference. We truly hope you enjoyed the conference, and had plenty of opportunities to network and interact with old and new industry friends and colleagues.

We want to thank all of our sponsors for their very much appreciated support of the conference: www.eastfuelconf.com/2017-sponsors

The conference presentations are posted online, access them via: www.eastfuelconf.com

Select from the upper menu: Conference
 Then select: Presentations
 Then select: 2017 Presentations

User name for 2017 (case sensitive): Presentations
 Password (case sensitive): EFB2017Conference

As we strive to improve our conference every year, we need your feedback, it is after all your conference. If you would be so kind to fill in as much of the attached form as possible and return it to us at: info@eastfuelconf.com. We thank you in anticipation of your support and contributions so that we might continue to serve your needs for this conference better and better!

Please mark your calendar for **next year's conference: May 9 - 11, 2018** to be held again at Disney's Yacht & Beach Club Resort.

Conference sponsorship opportunities are available for the 2018 conference. If you are interested in contributing to this unique event with a sponsorship, please contact us or a committee member for additional information.

Once again, we thank you for your support and look forward to seeing you next year!

Sincerely,

Eastern Fuel Buyers Conference host committee:

Tory Bombard (Lakeland Utilities), *Karen Bramley* (Tampa Electric Co), *Claston Sunanon* (OUC), *Mia Torres* (OUC), *Eric Walters* (Lakeland Utilities)

Eastern Fuel Buyers Conference Meeting Planners:

Romy and your on-site support team Katie, Aurora and Keara

GLOBAL RCBI Meeting Team / EFBC coordinators

Tel: 1-407-438-9600

Email: info@EastFuelConf.com

Website: www.eastfuelconf.com

Conference pictures: www.facebook.com/GlobalRCBI

Message

From: Washington, Kevin [kwashington@itw.com]
Sent: 5/8/2017 9:19:37 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Energy star fun

Hey Mandy. So, don't know if you saw last week the appointment of Daniel Simmons to the principal dep asst secretary for DOE's energy efficiency office? He I think will be a good partner to EPA from a manufacturer side. Just s thought.

Now, just checking in to see whether the Administrator had any more thoughts about the energy star program since we last met in your office? I'm in corporate HQ meetings this week where I'll be asked for a Govt affairs status of the program. Anything you want to throw out please feel free to shout out.

Kevin Washington
ITW Government Affairs
202 261 3550 o
202 304 6264 m

Message

From: Clint Woods [cwoods@csg.org]
Sent: 5/12/2017 9:27:34 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Transport Modeling

Mandy,

http://www.csg.org/aapca_site/news/Commentson2015OzoneNAAQSPreliminaryTransportData.aspx

http://www.csg.org/aapca_site/news/CSAPRUpdateComments.aspx

<https://www.reginfo.gov/public/do/viewEO12866Meeting?viewRule=false&rin=2060-AS05&meetingId=2575&acronym=2060-EPA/OAR> (presentation here:
<https://www.reginfo.gov/public/do/eoDownloadDocument?pubId=&eodoc=true&documentID=2843>)

Thanks!

Clint

Message

From: Birsic, Michael J. (MPC) [mjbirsic@marathonpetroleum.com]
Sent: 5/16/2017 1:41:37 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]
Subject: Non-work related...Dilbert!
Attachments: dilbert.jpeg

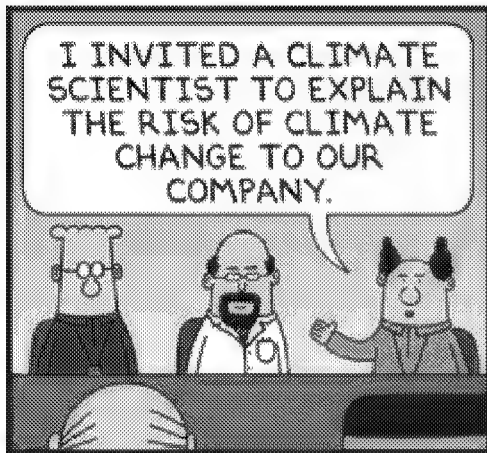
Thought you two would enjoy this cartoon.

Begin forwarded message:

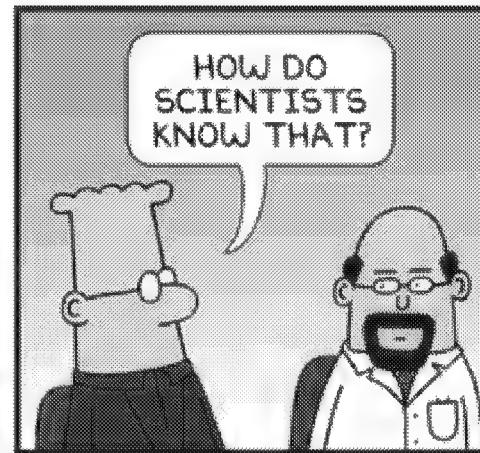
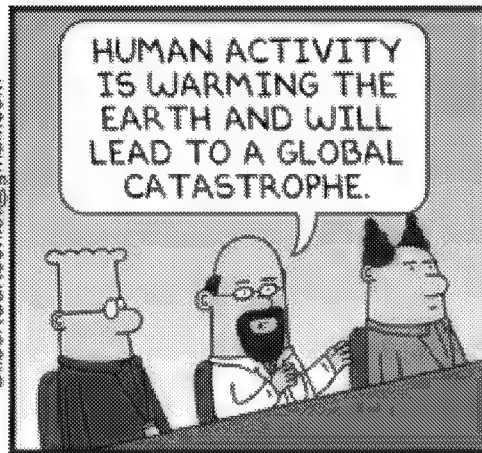
From: "Williams, Dwight S. (MPC)" <dswilliams@marathonpetroleum.com>
Date: May 16, 2017 at 9:33:03 AM EDT
To: "Beeman, Guy M. (MPC)" <gmbeeman@marathonpetroleum.com>, "Birsic, Michael J. (MPC)" <mjbirsic@marathonpetroleum.com>
Subject: Dilbert!

Can always count on Scott to keep it real!!!

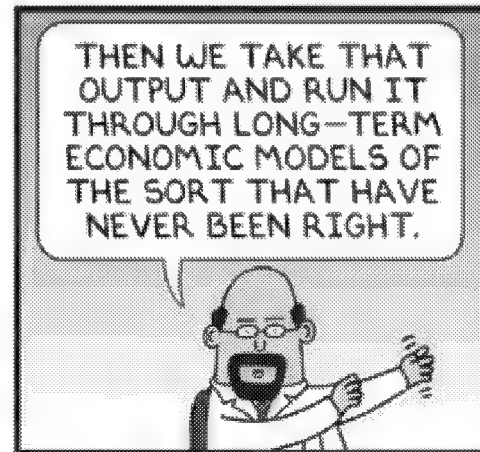
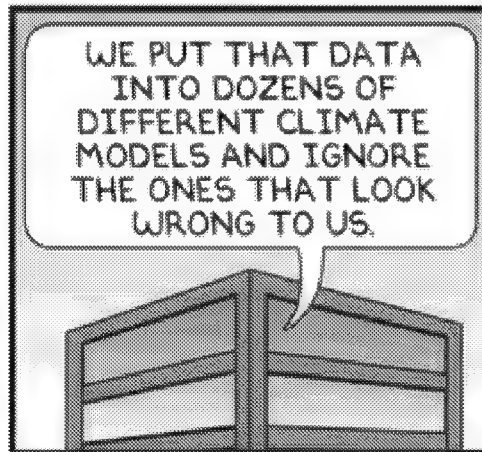
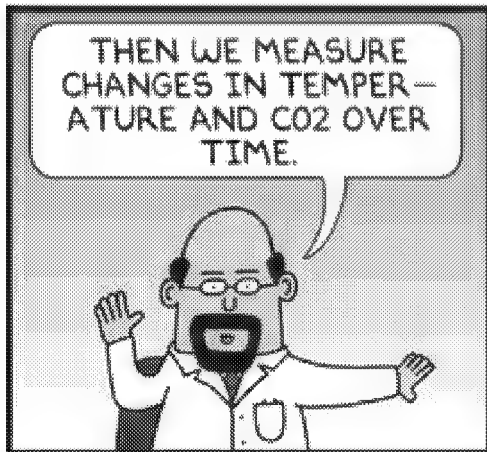
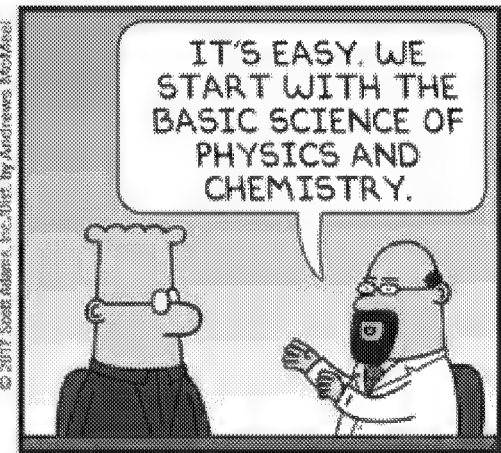
To help protect your privacy, Outlook prevented automatic download of some pictures from the Internet.

DILBERT**BY SCOTT ADAMS**

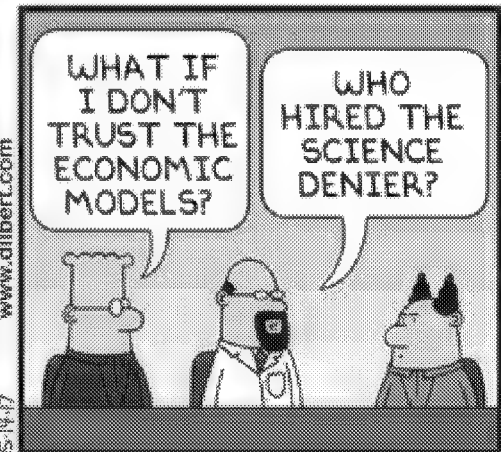
DilbertCartoonist@gmail.com



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www.dilbert.com 5-19-17



Message

From: Rogier, Rachel [RRogier@archcoal.com]
Sent: 5/16/2017 7:55:43 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Your number

Sure, it's Personal Phone / Ex. 6 I'm at the post office right now, but I'll be back at my desk in 10 minutes.

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Tuesday, May 16, 2017 3:53 PM
To: Rogier, Rachel <RRogier@archcoal.com>
Subject: RE: Your number

Hey Rachel, can you send me your phone number? I listened to your voicemail and think I wrote down the wrong one.

From: Rogier, Rachel [mailto:RRogier@archcoal.com]
Sent: Monday, May 8, 2017 12:16 PM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Your number

Hey Mandy,

I have an issue I wanted to discuss with you, what's your office number?

Thanks,

Rachel Rogier
Arch Coal

***Email Disclaimer: The information contained in this e-mail, and in any accompanying documents, may constitute confidential and/or legally privileged information. The information is intended only for use by the designated recipient. If you are not the intended recipient (or responsible for delivery of the message to the intended recipient), you are hereby notified that any dissemination, distribution, copying, or other use of, or taking of any action in reliance on this e-mail is strictly prohibited. If you have received this e-mail communication in error, please notify the sender immediately and delete the message from your system.

Message

From: Gunasekara, Surya [Surya@mail.house.gov]
Sent: 5/18/2017 1:17:39 PM
To: 'ccunningham@secureenergy.org' [ccunningham@secureenergy.org]
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: CAFE Standards

Hey Chuck,

Good seeing you last night.

As promised, I have connected you with my wife Mandy. She can direct you to the appropriate contact depending on your specific requests.

Surya

Surya G. Gunasekara
Chief of Staff
Congressman Jim Renacci (16th-OH)
328 Cannon House Office Building
Washington, DC 20515
O: (202) 225-3876
F: (202) 225-3059



[Click here to receive Jims's weekly email updates](#)

Message

From: Pagano, Peter A [peter.a.pagano@boeing.com]
Sent: 5/9/2017 8:22:05 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Followup to yesterday's meeting
Attachments: BoeingComments_31august2015.pdf

Hi Mandy,

Thank you for your time yesterday, we appreciated the opportunity to share some information on Boeing with you Samantha, and Brittany. As you requested, please find attached Boeing's comments on the proposal for the aircraft endangerment finding and ANPRM drafted in 2015. You had also mentioned that you are interested in limiting the impact or scope of any standards. We are interested in having a followup discussion with you to talk thru that a bit and include some of our aviation industry colleagues as well. Please let me know when you are available to meet with us in the coming weeks.

BTW- Also let us know when you and your colleagues might have time to come to Charleston, SC to learn how 787's are built. That would be good background for you all to have as you work thru some of these issues.

I look forward to hearing from you soon.

All the best,

Peter A. Pagano
Director, Environment
The Boeing Company
703-414-6486
Email: peter.a.pagano@boeing.com



The Boeing Company
P.O. Box 3707
Seattle, WA 98124-2207

August 31, 2015

Air and Radiation Docket and Information Center
U.S. Environmental Protection Agency
Mail Code: 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Docket ID No. EPA-HQ-OAR-2014-0828: Proposed Finding that Greenhouse Gas Emissions From Aircraft Cause or Contribute to Air Pollution that May Reasonably Be Anticipated to Endanger Public Health and Welfare and Advance Notice of Proposed Rulemaking

Dear Sir or Madam:

These comments are submitted by The Boeing Company (“Boeing”) in response to the Environmental Protection Agency’s (“EPA” or “Agency”) publication in the Federal Register of a notice of proposed rulemaking “Finding that Greenhouse Gas Emissions from Aircraft Cause or Contribute to Air Pollution That May Reasonably Be Anticipated To Endanger Public Health and Welfare and Advance Notice of Proposed Rulemaking.” 80 Fed. Reg. 37757 (July 1, 2015). Boeing manufactures “covered airplanes” as that term is defined by EPA,¹ and thus has a direct and substantial interest in this rulemaking.²

INTRODUCTION

1. The Boeing Company

Boeing is the world’s largest aerospace company and leading manufacturer of commercial airplanes, defense, space and security systems. The top U.S. exporter, Boeing supports airline and U.S. and allied government customers in more than 150 countries. Our products and tailored services include commercial and military aircraft, satellites, weapons, electronic and defense systems, and performance-based logistics and training. We employ approximately 165,000 workers throughout the United States.

Boeing is committed to responsible environmental stewardship. We are continually researching new, innovative technologies to improve our company’s and our industry’s environmental performance. This includes improving the operational efficiency of our products

¹ Pursuant to section 231(a)(2)(A) of the Clean Air Act, EPA is proposing to find that greenhouse gas emissions from aircraft engines used in certain types of aircraft contribute to air pollution that endangers public health and welfare. Covered aircraft are those aircraft as to which the International Civil Aviation Organization (ICAO) has agreed the international carbon dioxide (CO₂) standard would apply – subsonic jet aircraft with a maximum takeoff mass (MTOM) greater than 5,700 kilograms and subsonic propeller-driven aircraft with a MTOM greater than 8,616 kilograms. 80 Fed. Reg. 37757, 37761.

² Boeing also is a member of the Aerospace Industries Association (“AIA”) and fully supports the comments made by AIA in its letter to the EPA.

with new enhanced digital tools; using advanced, lightweight materials and improved aerodynamics to reduce our products' fuel consumption; developing and working with industry to commercialize new sustainable fuels; researching hybrid, solar and electric-powered aircraft; and accelerating the efficiency of our manufacturing facilities.

Today, Boeing builds and delivers the world's most modern and fuel-efficient fleet of commercial airplanes. This brings enormous value for our airline customers by creating new opportunities for efficiencies that cut fuel costs and reduce greenhouse gas emissions while improving the environmental performance of the aerospace industry.

2. The Commercial Aviation Industry's Environmental Commitments

The commercial aviation industry has a strong environmental track record, including steady technology improvements reducing aircraft greenhouse gas emissions over time. Today's commercial aircraft are 70 percent more fuel efficient than aircraft flying 50 years ago. Greater fuel efficiency translates into reductions in aircraft fuel consumption and greenhouse gas emissions. Today, more than three percent of global gross domestic product (GDP) is supported by aviation, yet only two percent of global anthropogenic carbon dioxide (CO₂) emissions are attributable to aviation and aviation emissions of other greenhouse gases are negligible.

Nevertheless, as developing economies expand their role in the global market place, the commercial aviation fleet is expected to more than double over the next twenty years. It is for this reason that the commercial aviation industry is committed to building upon its strong environmental track record. The industry understands that climate change is a serious global environmental challenge that requires credible action. In 2008, the industry agreed to a set of environmental targets to combat CO₂ emissions. They include: improving fuel efficiency by an average of 1.5 percent per year from 2009 to 2020; stabilizing emissions from 2020 with carbon-neutral growth; and reducing net CO₂ emissions from aviation by 50 percent by 2050 compared to 2005 levels.³

The industry intends to meet these goals by: (1) improving the fuel efficiency of the commercial aircraft fleet, which directly reduces greenhouse gas emissions; (2) improving the operational efficiency of flights within the U.S. and globally to reduce fuel use and greenhouse gas emissions (these emission reductions will occur via more efficient airline operational business practices and investments by governments in air traffic management (ATM) system modernization); and (3) reducing aviation's use of petroleum jet fuel through greater use of sustainable aviation biofuel (several of which are already approved for commercial use, allowing them to be blended directly into petroleum jet fuel without change to airplanes or the fueling infrastructure).

Boeing has been and will continue to be the industry leader in advancing all three of these crucial initiatives in order to reduce our industry's greenhouse gas emissions. First and foremost, we are investing billions of dollars to design and build the most fuel efficient fleet of airplanes in

³ ATAG Industry Position Statement - <http://www.atag.org/component/downloads/downloads/203.html>

the world, which serves our customers' business needs and also supports our industry's emissions reduction goals. As examples, the new 787 Dreamliner family improves fuel efficiency and reduces greenhouse gas emissions by 20 to 25 percent compared to the models it replaces; and the new 747-8 improves fuel efficiency and reduce greenhouse gas emissions by 16 percent compared to the model it replaces. In the coming years, Boeing will bring to market the 737 MAX, which will reduce fuel use and emissions by 20 percent compared to the original Next-Generation 737, and the 777X, which will also reduce fuel use and emissions by 20 percent compared to the airplane it replaces. Over 75% of our research and development budget benefits the environmental performance of our aircraft, which reflects the commitment of Boeing to achieve the industry's environmental goals.

We are also deeply involved in supporting our industry's need for greater operational efficiency of the current fleet. In the near term, we are working closely with navigation providers, airlines, airports, and air traffic stakeholders to implement procedures to fully utilize airplane capability for fuel and greenhouse gas emissions savings, and to provide services that provide flight route planning optimization to minimize greenhouse gas emissions. We are also working closely with the Federal Aviation Administration (FAA) and international authorities to bring to fruition the promise of modernized, harmonized global ATM systems, supporting our industry's and regulators' safety imperative and also contributing fuel efficiency improvements of up to 12 percent for all airplanes flying. For example, we have partnered with FAA and airlines to use Required Navigation Performance procedures (RNP) at airports in Phoenix, Chicago and Seattle to save fuel, reduce emissions, and reduce noise burdens for the local community. In addition, every Boeing commercial airplane that rolls out of our factories in Washington State and South Carolina is equipped to utilize the next generation ATM capabilities in preparation for the day when the entire air traffic system is managed under NextGen.

Boeing also is the industry leader in the development of sustainable aviation biofuel, which is vital to meeting aviation's emissions reduction goals. We partner with airlines, governments, research institutions and other stakeholders in the U.S. and around the world (in Australia, Brazil, China, Europe, Japan, South Africa, Southeast Asia and the Middle East) to make significant progress on this difficult challenge. For example, Boeing is leading industry efforts to obtain approval of sustainable fuels for use in aircraft engines. To date, three different fuel types, often described as "pathways," have been approved for commercial aviation and we are supporting efforts to move several additional fuel types through standards approval with ASTM International (formerly known as American Society of Testing and Materials). We continue to advocate for policies that put sustainable aviation biofuel on a level playing field with petroleum, and we leverage our own resources to test (and flight test) new types of aviation biofuel in order to make progress on this critical initiative.

3. The Role of ICAO in Aviation Environmental Regulation

Any regulatory effort to reduce aircraft greenhouse gas emissions must be done on an international basis. Aviation is a global industry which requires global standards. Aircraft are uniquely mobile assets that are designed to fly anywhere in the world, ferrying persons and cargo across state, national and regional borders. Consistency among national standards ensures a level playing field for all industry participants, ensures resources can be focused on innovation

for environmental benefit, and reduces administrative complexity for ensuring airplanes manufactured in and operated from other nations meet the same rigorous standards expected of US manufacturers and operators.

ICAO is the only international body in which aviation-specific technological feasibility, economic viability, environmental benefit, and environmental interdependencies can be evaluated together in shaping policy. Responding to the environmental challenges facing the commercial aviation industry requires a comprehensive approach particularly with respect to aircraft greenhouse gas emissions standards.

The United States has agreed, as one of the 191 parties to the Convention on International Aviation (the “Chicago Convention”), that ICAO has the authority to establish environmental standards for aircraft. While the Chicago Convention allows a party to set policies more stringent than the ICAO standards under certain limited conditions, EPA’s practice has been to adopt ICAO’s emissions standards as its own. The FAA has followed a similar approach in setting aircraft noise standards.

Historically, EPA has worked with FAA and within ICAO to establish aircraft emission standards. As EPA noted in the NPRM “[t]he EPA and [FAA] traditionally work within the standard-setting process of ICAO’s Committee on Aviation Environmental Protection (CAEP) to establish international emission standards and related requirements. . . . [U]nder this approach, international emission standards have first been adopted by ICAO, and subsequently the EPA has initiated rulemakings under CAA [Clean Air Act] section 231 to establish domestic standard equivalent to ICAO’s standards . . .” 80 Fed. Reg. 37757, 37765. This approach has been affirmed as reasonable by the U.S. Court of Appeals for the D.C. Circuit. *See NACAA v. EPA*, 489 F.3d 1221, 1230-32 (D.C. Cir. 2007).

We see no reason for EPA to deviate from this well-established practice in addressing aircraft greenhouse gas emission standards. CAEP is expected to adopt a final aircraft CO₂ emissions standard in February 2016, which will likely be approved by the ICAO Council in September 2016. As it has in the past, EPA should follow this well-established path and adopt the ICAO standards into U.S. domestic law under section 231. Doing so will ensure that U.S. aircraft and engine manufacturers are not placed at a competitive disadvantage vis-à-vis international competitors.

COMMENTS

1. The Proposed Endangerment/Contribution Finding

The Clean Air Act provides that “[t]he Administrator shall, from time to time, issue proposed emission standards applicable to the emission of any air pollutant from any class or classes of aircraft engines which in [her] judgment causes, or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare.” 42 U.S.C § 7571(a)(2)(A). The Administrator’s finding that greenhouse gases, defined as CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride

(SF₆)⁴ emitted from aircraft engines “cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare” is a necessary prelude to EPA adopting into U.S. law the anticipated ICAO CO₂ standard. We note, however, that of these six pollutants only CO₂ and N₂O are emitted from aircraft engines, and only CO₂ in any meaningful quantity.⁵

We support EPA’s justification to exclude from the proposed endangerment/contribution finding short-lived substances emitted at high altitudes from aircraft engines. As EPA correctly notes the “state of science as represented in the assessment literature highlights the significant scientific uncertainties regarding the total net forcing effect of water vapor, NO_x and aerosol particles when emitted at high altitudes.” 80 Fed. Reg. 37757, 37782. We note that NO_x is already regulated under section 231 and that water vapor has not been determined to be a pollutant under the Clean Air Act.

Overall, aviation’s contribution to U.S. greenhouse gas emissions is small relative to the contributions of other sectors of the economy. The EPA reports that aviation accounts for about 3 percent of U.S. greenhouse gas emissions, while automobiles and trucks contribute 25 percent to U.S. greenhouse gas emissions, and power plants contribute about 31% to U.S. greenhouse gas emissions⁶.

2. The Advance Notice of Proposed Rulemaking

As a general matter, Boeing is concerned with the approach that EPA has taken in opening up the ICAO/CAEP process for comment before the deliberations have concluded. As EPA is well aware, parties to the ICAO deliberations have agreed that ICAO/CAEP work in progress is to be accessed only by ICAO Member states and accredited observers to ICAO due to the proprietary nature of the technical information exchanged in the development of new environmental standards for aircraft. The ICAO/CAEP deliberations include representative stakeholders from all interested constituencies – Member States, such as the U.S. (both FAA and EPA) have leading roles in the development of the standard, and environmental non-governmental organizations, airlines, airports, aerospace manufacturers, etc. are directly engaged as observers to the deliberations. Moreover, all have agreed to the ICAO/CAEP confidentiality protocols limiting disclosure while the deliberations are ongoing. This puts Boeing in a difficult position of trying to be responsive to the Advance Notice of Proposed Rulemaking (ANPR) while at the same time adhering to our own confidentiality agreement within ICAO/CAEP not to release or discuss deliberative material.

With this in mind, we respond below to EPA’s questions on issues specific to CAEP considerations.

⁴ See 80 Fed. Reg. at 37784.

⁵ Moreover, to the extent the ICAO/EPA CO₂ standard improves the fuel efficiency of aircraft (both new type and possibly in-production) it will reduce the emissions of both CO₂ and N₂O. In fact, N₂O is emitted in trace quantities from aircraft engines which approach that of background levels in the atmosphere during measurements.

⁶ EPA website: <http://www.epa.gov/climatechange/ghgemissions/sources.html#ref3>

a. Purpose of the International Standard

The U.S. should continue to support the ongoing ICAO/CAEP process for adoption of a CO₂ standard. As discussed earlier in these comments, aviation is a global industry which requires global standards. Aircraft are mobile assets that are designed to fly anywhere in the world. Adopting into U.S. law the ICAO/CAEP emission standards will ensure that U.S. aerospace manufacturers are not placed at a competitive disadvantage vis-à-vis international competitors and will avoid disruptions to air travel.

The CAEP terms of reference for adopting aircraft emissions standards are well aligned with the criteria for adopting such standards under Section 231 of the Clean Air Act. Accordingly, the U.S. should align with those terms and criteria in continuing to participate in the ICAO/CAEP process and in adopting the future ICAO standard into U.S. law. Boeing is concerned, however, that the Agency misconstrues the “Purpose of the International Standard” as adopted by CAEP as effectively elevating environmental effectiveness, which is only one aspect of the terms of reference/criteria, as the controlling or “trump” factor for decision making. EPA asserts that the purpose of the standard is “to achieve CO₂ emissions reductions from the aviation sector beyond expected ‘business as usual’—i.e., a standard that achieves CO₂ emissions reductions from the aviation sector beyond what would be achieved in the absence of a standard.” This is not a full recitation of the purpose of the standard adopted by ICAO/CAEP, as EPA asserts, nor is it appropriate in isolation. *See ICAO CAEP Terms of Reference*, <http://www.icao.int/environmental-protection/Documents/CAEP/Images/CAEPToR.jpg>

This is because commercial aviation manufacturers are already highly focused on achieving fuel efficiency and have a tremendous record of doing so and the airlines and other aircraft operators who are their customers are continually pushing them to reduce the operating costs and improve the environmental performance of their products. As reflected by the industry’s track-record and greenhouse gas emissions reductions commitments, aircraft manufacturers and the rest of the aviation industry are already achieving and plan to achieve “beyond business as usual” results. The industry’s early actions cannot be discounted when considering the “business as usual” concepts.

Second, while EPA asserts that the “purpose” of the standard must be “analyzed” according to the ICAO/CAEP criteria for standards (i.e., technological feasibility, environmental benefit, cost effectiveness, and impacts of interdependencies), any such analysis is just a preliminary step. Indeed, analysis alone is not enough. Rather, the outcome of the standard is actually dependent on a determination that each of the criteria is appropriately satisfied and balanced.

Third, ICAO/CAEP – with full concurrence of the U.S. – has long had, and still has, a more full definition of the purpose of a certification standard. In particular, the purpose of ICAO/CAEP noise and emissions certification standards is to ensure that technologies that bring noise and/or emission reduction benefits are incorporated into the fleet over time. Thus, the

“purpose” that EPA cites, “to achieve CO₂ emissions reductions from the aviation sector beyond expected ‘business as usual’,” is actually an adjunct to the broader purpose.

EPA must be careful not to oversell the ability or appropriateness of regulation to achieve benefits significantly beyond the point already being reached due to powerful market forces. Market pressures drive manufacturers to continue to invest in new airplane technology, and operators to invest in the latest, most fuel efficient airplanes. In effect, the commercial aviation market pulls measured environmental improvements by implementing the aforementioned proven, safe technologies in an economically reasonable fashion. It would be inappropriate for a global standard to overreach beyond these existing market pressures, and CAEP’s historical approach of balancing environmental benefit, technological feasibility, and economic reasonableness ensures that these interdependencies can be evaluated together when developing regulatory policy.

Both ICAO/CAEP and the Clean Air Act give primacy to safety in the development of aircraft emissions standards. Section 231 prohibits the Administrator from promulgating emission standards “if such change would significantly increase noise and adversely affect safety.” 42 U.S.C. 7571(a)(2)(B). This is because aircraft fly at altitude over all types of terrain and vast ocean expanses and through all types of weather and climate, ferrying hundreds of passengers. It is for this reason that sound policy considerations dictate that aircraft emission standards must move forward on proven technologies that have met rigorous certification and safety standards.

b. Applicability of International Emissions Standard⁷

With a first-of-its kind greenhouse gas certification standard, it would be prudent to begin with new type aircraft. That said, the assessment in ICAO/CAEP is ongoing, so whether the certification standard could apply to both new type and in-production aircraft will depend upon the analysis and application of the ICAO/CAEP criteria.

The two main options being considered for possibly distinguishing new type and in-production standards are different regulatory levels (stringency limit lines) and different applicability dates. For new type aircraft, the dates being considered by CAEP are in the 2020-2023 timeframe. From a Boeing perspective these seem reasonable. We are concerned, however, that a 2020 implementation date for new types will not give the EPA and the FAA sufficient time to incorporate the ICAO/CAEP standard into U.S. domestic regulations. Such a scenario, could place Boeing and other U.S. manufacturers at a competitive disadvantage if overseas competitors are able to get new type certifications from their domestic agencies, while U.S. manufacturers must await rulemaking before getting new type certifications from the FAA that will be recognized internationally.⁸

⁷ Boeing also notes a factual error about our products in this section of the document. The Boeing 777-300ER entered service in 2004, while the 777-200LR entered service in 2006.

⁸ As to treating in-production aircraft as new types when a change is made to them, we are not aware that ICAO/CAEP is considering such an option. Such a concept would have the undesired effect of discouraging innovation to existing products.

ICAO/CAEP determined, and the U.S. agreed, that the future standard should not be applied to the in-service fleet⁹. That decision is appropriate and should be maintained as the U.S. considers adopting the future ICAO standard into U.S. law.

c. CAEP Discussion on In-Production Aircraft Applicability

As discussed above, ICAO/CAEP is in the process of considering applicability of a CO₂ emission standard to both new type and (possibly) in-production aircraft. CAEP is considering whether an in-production standard would meet its balancing criteria of technological feasibility, economic viability, environmental benefit, and environmental interdependencies. Should it decide to set an in-production standard, it will do so after considering a number of regulatory options and applicability date timelines for a potential in-production CO₂ standard. From Boeing's perspective, the more stringent the standard is for in-production applicability the longer the time will be needed for manufacturers to comply with it.

An in-production applicability date must also allow sufficient time for EPA and FAA to adopt into U.S. domestic law the ICAO/CAEP standards, but additionally allow the FAA sufficient time to certify all U.S. in-production planes. Boeing delivered 723 airplanes in 2014 and we expect to deliver at least as many planes in 2023. Thus, it is vitally important that there be no delay in delivering certified aircraft to its airline customers because EPA and/or FAA have not finalized the certification procedures.

d. Reporting Requirements for New Type and In-Production Aircraft

Boeing supports the reporting of a "metric value" (MV), which will enable assessment of compliance with the CO₂ emissions standard while maintaining the confidentiality of manufacturer's sensitive business information.¹⁰ It is important that the reporting requirement not disclose sensitive trade secret information. Such information generally loses its trade secret protection once it is publically disclosed. In addition, any reporting requirement must not conflict with manufacturers' or EPA's obligations under applicable U.S. export control regulations.

e. Domestic Implementation of ICAO/CAEP CO₂ Standards

EPA should adopt the CO₂ emission standard being developed by ICAO/CAEP which is expected to be finalized by CAEP in February 2016. Given the global nature of air transportation and CO₂ emissions, the regulatory principles of international reciprocity and uniformity of international standards are particularly applicable and important.

⁹ ICAO Circular 337-AT/192 "CAEP/9 Agreed Certification Requirement For The Aeroplane CO₂ Emissions Standard" Page 2, available at http://www.icao.int/publications/ICAOProducts&Services2015catalogue/cat_2015en.pdf

¹⁰ We note that the "low gross mass equation" published in the federal register is incorrect. See 80 Fed. Reg. 37796. The correct equation is: low gross mass = (0.45 x MTOM) + (0.63 x (MTOM^{0.924})).

In the ANPR, EPA recognized that it “has traditionally established domestic standards that track the ICAO standards.” 80 Fed. Reg. at 37805. Likewise, the FAA stated in a previous aircraft emission standards rulemaking: “[i]n keeping with U.S. obligations under the Convention on International Civil Aviation [Chicago Convention], it is FAA policy to conform to International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable.” 77 Fed. Reg. 76842, 76849 (Dec. 31, 2012). As a party to the Chicago Convention, the U.S. must strive toward uniformity with international standards for aircraft. *See* Chicago Convention, Article 37 (“Each contracting State undertakes to collaborate in securing the highest practicable degree of uniformity in regulations, standards, procedures, and organization in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation . . .”).

Clean Air Act Section 115 recognizes this concept of international reciprocity, requiring that actions taken under Section 115 to address international air pollution “shall only apply to a foreign country which the Administrator determines has given the United States essentially the same rights with respect to the prevention or control of air pollution occurring in that country as is given that country by this section.” 42 U.S.C. § 7415(c).

As EPA also noted in a previous aircraft engine emissions rulemaking, Executive Order 13609, 77 Fed. Reg. 26413 (May 4, 2012), “promotes international regulatory cooperation in order to identify approaches that are at least as protective as those that are or would be adopted in the absence of such cooperation in meeting shared challenges involving health, safety, labor, security, environmental, and other issues. International regulatory cooperation can also reduce, eliminate, or prevent unnecessary differences in regulatory requirements.” 77 Fed. Reg. 36342, 36379 (June 18, 2012).

Congress’ actions also reflect its insistence on international reciprocity when the US considers or participates in the regulation of greenhouse gases. In Senate Resolution 98, the Senate stated that the U.S. should not be a signatory to any agreement under the United Nations Framework Convention on Climate Change that would require new commitments to reduce greenhouse gas emissions for the U.S. and other Annex I Parties unless such an agreement also requires commitments to reduce greenhouse gas emission from Developing Country Parties. S. Res. 98, 105th Cong. (1997). In a similar vein, in 2012, Congress passed a bill authorizing a prohibition, under certain conditions, on U.S. civil aircraft participating in the emissions trading scheme unilaterally established by the European Union. S. 1956, 112th Cong. (2012) (Pub. L. 112-200).

As a practical matter, unilateral action by EPA, going beyond the scope or stringency of, or otherwise materially deviating from, the ICAO/CAEP standard, would place domestic aircraft manufacturers at a competitive disadvantage as they would or could be held to a higher or different standard (with the potential for production cut-offs of existing aircraft models) than would be their competitors. Under Chicago Convention Article 33, the U.S. is required to recognize the airworthiness certificates of any member country whose standards are at least as

stringent as ICAO's standards¹¹. As a result, even if the U.S. adopts a greenhouse gas emission standard that is more stringent than the standard adopted by ICAO, air carriers not based in the U.S. would only be required to comply with the ICAO standards when flying in the U.S.¹²

As EPA has recognized in a past aircraft engine emissions standard rulemaking, Clean Air Act section 231 does not compel the Agency to obtain the "greatest degree of emission reduction achievable as per section 213 and 202 of the CAA" and that "EPA does not interpret the Act as requiring the Agency to give subordinate status to factors such as cost, safety and noise in determining what standards are reasonable for aircraft engines." 70 Fed. Reg. 69664, 69676 (Nov. 17, 2005). Indeed, "EPA has greater flexibility under section 231 in determining what standard is most reasonable for aircraft engines . . ." *Id.*

This tracks well with the ICAO/CAEP criteria of technological feasibility, environmental benefit, cost effectiveness and impacts of interdependencies, such that ICAO/CAEP standards can be adopted into U.S. law under section 231. The work done at ICAO/CAEP directly relates to the considerations EPA and the FAA must recognize when establishing emission standards under section 231.

Indeed, ICAO/CAEP's consideration of technological feasibility provides expert and relevant information as to the requisite technology that EPA and FAA must consider under section 231. In fact, EPA and FAA have contributed actively to the technical-feasibility analysis in CAEP's emissions technical-issues workgroup (Working Group 3).

Likewise, ICAO/CAEP's consideration of economic reasonableness provides relevant information as to the relative cost of compliance in determining what standards are reasonable under section 231. There again, both EPA and FAA are playing leading roles in this analysis at CAEP.

¹¹ Article 33 provides: "Certificates of airworthiness and certificates of competency and licenses issued or rendered valid by the contracting State in which the aircraft is registered, **shall be recognized as valid by the other contracting States, provided that the requirements** under which such certificates or licenses were issued or rendered valid **are equal to or above the minimum standards** which may be established from time to time pursuant to this Convention." (Emphasis added).

¹² As EPA stated in 2012, "[t]he Convention has a number of other features that govern international commerce. First, States that wish to use aircraft in international transportation must adopt emission standards and other recommended practices that are at least as stringent as ICAO's standards. States may ban the use of any aircraft within their airspace that does not meet ICAO standards. Second, **States are required to recognize the airworthiness certificates of any State whose standards are at least as stringent as ICAO's standards, thereby assuring that aircraft of any member State will be permitted to operate in any other member State.** Third, and finally, to ensure that international commerce is not unreasonably constrained, a participating nation which elects to adopt more stringent standards is obligated to notify ICAO of the differences between its standards and ICAO standards. However, **if a nation sets tighter standards than ICAO, air carriers not based in that nation would only be required to comply with ICAO standards or more stringent standards imposed by their own nations**, if applicable." EPA, Control of Air Pollution from Aircraft and Aircraft Engines; Emission Standards and Test Procedures, 77 Fed. Reg. 36,342, 36,345 (June 18, 2012) (emphasis added and footnotes omitted).

Further, the consideration of environmental benefit at CAEP provides relevant information regarding aircraft emissions, their potential impacts and means of mitigation. Again, both EPA and FAA are playing leading roles in the analysis of the various emission stringency options for both new type and in-production aircraft.

And lastly, ICAO/CAEP's consideration of the interdependencies between noise and emissions (including emissions of CO₂ and NO_x) provides relevant information that will assist EPA and the FAA in ensuring that any emissions standards developed do not conflict with the section 231 prohibition against changing aircraft emission standards in such a way as to "significantly increase noise."

For these reasons, we would encourage the Agency not to regulate aircraft emissions in a unilateral way. The global nature of the industry requires consistent regulation across national borders. To do otherwise would be to invite disruption in the global air transport industry and would unnecessarily penalize U.S. aircraft manufacturers and airlines.

CONCLUSION

Boeing appreciates the opportunity to submit comments on the proposed Endangerment/Contribution finding and associated ANPR. If you have any questions, please do not hesitate to contact Edward Ferguson in our Washington, DC office. He can be reached at edward.l.ferguson@boeing.com.

Sincerely,



Sheila Remes
Vice President, Strategy
Boeing Commercial Airplanes

AAPCA  ASSOCIATION OF AIR POLLUTION CONTROL AGENCIES

2017 FALL BUSINESS MEETING

September 20–22 | Doubletree by Hilton | Raleigh, North Carolina

March 6, 2017

Administrator Scott Pruitt
U.S. Environmental Protection Agency (EPA)
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N. W.
Washington, DC 20460

Administrator Pruitt,

On behalf of the Association of Air Pollution Control Agencies (AAPCA), I would like to invite you to attend and speak at AAPCA's 2017 Annual Business Meeting, which will be held at the Doubletree by Hilton in Raleigh, North Carolina from September 20 to 22. AAPCA is a consensus-driven organization representing state and local air agencies on technical Clean Air Act issues. Regular attendance by senior U.S. EPA officials at previous Association meetings has been greatly valued by our membership.

More information on AAPCA's Annual Business Meeting will be available shortly on our website (www.cleanairact.org). The meeting is closed to the press and programming on September 22 should be limited to federal, state, and local agency personnel and their multi-jurisdictional organizations (with non-governmental attendees participating in the first two days). AAPCA's 2016 meeting included participation from over 120 attendees, including senior air officials from more than 25 state and local air agencies as well as roughly 40 U.S. EPA staff from the Offices of Air and Radiation, General Counsel, and Enforcement and Compliance Assurance.

Thank you for your consideration. If your schedule permits, AAPCA's members look forward to seeing you in Raleigh and discussing opportunities to work together on Clean Air Act issues.

Sincerely,



Sean Alteri
Director, Division of Air Quality
Commonwealth of Kentucky
2017 AAPCA President

Message

From: Tyler Hamman [TylerHamman@lignite.com]
Sent: 5/11/2017 3:32:29 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Washington, Valerie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9d031c02ce3a416dad0d421ee998d5a3-VWASHING]
Subject: Re: [SPAM] Meeting Request on behalf of Lignite Energy Council

That's great, thank you!

On May 10, 2017, at 9:20 PM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Hi Tyler,
I'd be happy to meet. I'm CC'ing Valerie Washington who can help with the logistics.

Valerie, can you please set something up for Thursday the 18th?

Thank you,
Mandy

Sent from my iPhone

On May 10, 2017, at 11:39 AM, Tyler Hamman <TylerHamman@lignite.com> wrote:

Hi Mandy – I hope this finds you well in your new role. A few members of the Lignite Energy Council will be in DC on Thursday, May 18 and I was wondering if you might have some time to meet? The purpose of the meeting would be to reconnect with you and provide some background on issues under EPA's purview that our coal producers are currently working on.

Would you have any availability on the morning of Thursday, May 18th?

Thank you for your consideration of this request, and please let me know if you need additional information. Just as a refresher, the LEC is a regional trade association based out of Bismarck, North Dakota representing coal producers and utilities that produce 4,000 megawatts of electricity in North Dakota, approximately half of which is exported to serve approximately 2 million customers throughout the Upper Midwest.

Appreciate it!

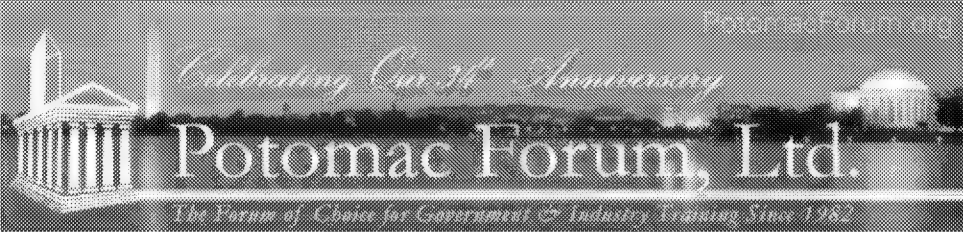
Tyler Hamman
Director, Government Affairs
Lignite Energy Council
701-355-2189

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 Message

From: Enterprise Risk Mgmt (A-123) Implementation & Mgmt [Training@GovInternalControls.PotomacForum.org]
Sent: 5/11/2017 6:35:44 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: [SPAM] Enterprise Risk Mgmt (OMB A-123) Goes Beyond the CFO Community

	
<p style="text-align: center;">Confirmed Gov Speakers</p> <p style="text-align: center;"> Dr. Karen Hardy Deputy Chief Risk Officer Department of Commerce Former risk management policy senior advisor to the Office of Management and Budget (OMB) --- Ken Phelan Chief Risk Officer (CRO) Department of the Treasury --- Rex Booth Deputy Chief Information Security Officer PBGC --- Alexis Wales Deputy Chief of Cybersecurity Performance Management DHS --- Javier Lopez, MSA Director Division of Management Assurance Office of the Assistant Secretary for Preparedness and Response HHS --- </p>	<p style="text-align: center;"> Enterprise Risk Management (OMB A-123) Goes Beyond the CFO - Please Forward to All Agency Executives, Managers and Staff Who are Responsible for Implementing or Managing OMB Circular A-123 - Enterprise Risk Management </p> <p style="text-align: center;"> Enterprise Risk Management (ERM) in Government Training Workshop II - OMB Circular A- 123: Beyond Compliance </p> <p style="text-align: center;">May 25, 2017</p> <p style="text-align: center;"> Willard InterContinental Hotel Washington, D.C. </p> <p style="text-align: center;"> Government Employees Only Press is Not Permitted </p>
<p> This workshop is for government employees only to permit candid discussion. Press and industry are not permitted. </p>	

Larry Koskinen
Chief Risk Officer
HUD

Nicole Puri
Risk Management Officer
PBGC

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Training Workshop II
- OMB Circular A-123: Beyond Compliance -**

***What federal executive, managers, and front line practitioners
need to know to incorporate the updated OMB Circular A-123
requirements that define management's responsibility for
internal control with an emphasis on integrating enterprise
risk management (ERM) in FY 2017 and beyond***

Thursday, May 25, 2017
The Willard InterContinental Hotel
Washington, D.C.

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www.potomacforum.org

Confirmed Government Speakers

Keynote Speakers:
Dr. Karen Hardy
Deputy Chief Risk Officer
U.S. Department of Commerce (DOC)
Former risk management policy senior advisor to the
Office of Management and Budget (OMB)

Ken Phelan
Chief Risk Officer (CRO)
U.S. Department of the Treasury

Rex Booth
Deputy Chief Information Security Officer
Pension Benefit Guaranty Corporation (PBGC)

Alexis Wales
Deputy Chief of Cybersecurity Performance Management
U.S. Department of Homeland Security (DHS)

Javier Lopez, MSA
Director
Division of Management Assurance
Office of the Assistant Secretary for Preparedness and Response
U.S. Department of Health and Human Services (HHS)

Larry Koskinen
Chief Risk Officer
U.S. Department of Housing and Urban Development (HUD)

Nicole Puri
Risk Management Officer
Pension Benefit Guarantee Corporation (PBGC)

Overview:

With the updated OMB Circular No. A-123 being issued nearly a year ago, this training is an advanced level internal control workshop focusing on what agencies and departments have done in relation to the requirements that defines management's responsibility for internal control with an emphasis on integrating enterprise risk management (ERM) and what they plan to do going forward.

This workshop is designed for the executive, manager, or front-line practitioner who is responsible for sustaining an effective internal controls program and who is charged in implementing the updated requirements of OMB A-123, including elements of ERM.

Participants will learn how to efficiently and effectively strengthen an internal control program while complying with the new requirements of OMB A-123, GAO Green Book, GAO Fraud Risk Assessment, and ERM. Participants will also gain an understanding of the evolution of internal controls, learn about emerging trends and best practices, and gain an understanding of a practical approach to assessing internal controls using a Governance, Risk, and Compliance methodology.

The Workshop will present very practical information about the federal government's requirements for not only internal control programs, but

mission related programs and will offer insight on integration, risk assessment, testing, and reporting.

The focus of this workshop will be on efficiently meeting the updated internal control and risk management requirements in an efficient and effective way.

Practical Information - Not Theory

Why You Should Attend:

Government organizations have established internal control programs. Many are very effective and many comply with regulations but need to be more aligned with program activities to strengthen the overall internal control system. This Potomac Forum Workshop will help agencies to "raise the bar" for their Internal Control programs and convert that investment into value-added program advantage. Enterprise Risk Management applies to all Executives, Managers and Staff in Government. It is not just a CFO function but is an Executive Department requirement for the entire CXO suite to implement. This Workshop will help to implement an effective and actionable Enterprise Risk Management program.

What You Will Learn:

- **Information that will help you continue to implement the updated requirements of OMB Circular A-123**
- **What the 2017 risk profile deadline means and how to continue your ERM focus beyond 2017**
- **How the Green Book fits into the new A-123 requirements**
- **Risk Management - how much is enough?**
- **GAO Fraud Guide - discussion on this requirement and how it fits into internal control reviews**
- **Presentations by experts with extensive, practical experience in DoD and civilian agencies**

Who Should Attend:

This workshop is limited to government employees only to permit candid discussion

- **Financial management professionals**
- **Internal controls and Risk Management Executives, Managers and team members**

- **Program management professionals with responsibilities in Managing Risk**
- **Auditors**
- **Risk Management and Internal controls steering committee members**
- **Inspectors General and Staff**
- **Chief Financial Officers and Staff**
- **Chief Information Officers and Staff**
- **Chief Procurement and Acquisition Officers and Staff**
- **Risk Management Staff**
- **Chief Human Capital Officers, HR Managers and Staff**
- **Managers, Directors and Senior Officials who have fiduciary/financial and/or risk management responsibilities**

Format:

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Potomac Forum, Ltd.

This email was sent by: Potomac Forum, Ltd.
400 North Washington Street , Alexandria , Virginia , 22314 , USA

Message

From: Zack Colman [zcolman@gmail.com]
Sent: 5/31/2017 1:03:06 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Bowman, Liz [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c3d4d94d3e4b4b1f80904056703ebc80-Bowman, Eli]
Subject: Re: Paris

Thanks Mandy. And hello, Liz! Just trying to get a confirmation of these reports. Also was wondering if there would be an official announcement of any sort. Beyond that, is the plan to begin a Paris withdrawal, or a full UNFCCC exit?

On Wed, May 31, 2017 at 9:00 AM Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:
 Let me connect you with our comms team (Liz, CC'd).

Sent from my iPhone

On May 31, 2017, at 8:19 AM, Zack Colman <zcolman@gmail.com> wrote:

Hi Mandy,

Is there any truth to this Axios scoop? Just trying to get my day in order.

<https://www.axios.com/scoop-trump-is-pulling-u-s-out-of-paris-climate-deal-2427773025.html>

-Zack

--

Zack Colman

energy/enviro journalist
 Knight Science Journalism fellow at MIT, '15-16
 248.563.9744
 Twitter: @zcolman

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Zack Colman

energy/enviro journalist
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Message

From: Traci Kraus [traci.kraus@cummins.com]
Sent: 5/9/2017 1:52:59 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Commercial Vehicle Manufacturers Meeting Request - May 15

Hi Mandy,

Regarding logistics for the meeting next Monday, I wanted to follow up on 3 questions. We have also reached out to Sharnett Willis, but I wanted to loop you in as well.

1. Besides you and Ryan, will anyone else from EPA attend?
2. Can you provide details on where we will meet?
3. Do you need information from us on attendees or anything else?

Here is the list of attendees:

- Steve Berry, Volvo
- Brian Mormino, Cummins
- Paul Feenstra, PACCAR
- Sean Waters, Daimler
- Jed Mandel, EMA

Please let me know if there's anything else you need from me.

Thanks so much!

Traci Kraus
Director, Government Relations
Cummins Inc.

601 Pennsylvania Ave. NW
Suite 1100N
Washington, DC 20004
Office: 202-654-4285
Cell: 202-302-5851

From: Traci Kraus
Sent: Thursday, April 20, 2017 2:12 PM
To: 'Gunasekara, Mandy' <Gunasekara.Mandy@epa.gov>
Subject: RE: Commercial Vehicle Manufacturers Meeting Request - May 15

Great,

Thanks Mandy! Appreciate it and look forward to seeing you.

Best,

Traci Kraus

Director, Government Relations
Cummins Inc.

601 Pennsylvania Ave. NW
Suite 1100N
Washington, DC 20004
Office: 202-654-4285
Cell: 202-302-5851

From: Gunasekara, Mandy [<mailto:Gunasekara.Mandy@epa.gov>]
Sent: Wednesday, April 19, 2017 8:17 PM
To: Traci Kraus <traci.kraus@cummins.com>
Subject: RE: Commercial Vehicle Manufacturers Meeting Request - May 15

Thank you for the follow-up. I'll be happy to sit-in on Ryan's meeting.
Look forward to catching up then.
Best,
Mandy

From: Traci Kraus [<mailto:traci.kraus@cummins.com>]
Sent: Wednesday, April 19, 2017 3:59 PM
To: Mandy.Gunasekara@gmail.com; Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>; Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: RE: Commercial Vehicle Manufacturers Meeting Request - May 15

Hi Mandy,

I wanted to follow up on this email, and also let you know that our group has a meeting scheduled with Ryan Jackson for 3:30 pm on the 15th. I wanted to see if you would like to join that meeting, or if another time is better on your end?

Thanks so much!

Traci Kraus

Director, Government Relations
Cummins Inc.

601 Pennsylvania Ave. NW
Suite 1100N
Washington, DC 20004
Office: 202-654-4285
Cell: 202-302-5851

From: Traci Kraus
Sent: Wednesday, April 12, 2017 10:03 AM
To: Mandy.Gunasekara@gmail.com; 'gunasekara.mandy@epa.gov' <gunasekara.mandy@epa.gov>
Subject: Commercial Vehicle Manufacturers Meeting Request - May 15

Hi Mandy,

I hope you are doing well with your transition to EPA. My colleague Brian Mormino (former EPW staff) will be in DC with several of our peers in the commercial vehicle industry on May 15th. We are hoping to meet with folks at EPA to talk about our industry and where we're at. I know that Brian has also reached out to Ryan Jackson for a meeting.

The participants in the meeting would be the President of the Truck and Engine Manufacturers Association (EMA) and executives from the major manufacturers – Cummins, Navistar, Paccar, Daimler and Volvo. Our intent is to discuss industry regulatory issues including the Phase 2 Fuel Efficiency and Greenhouse Gas regulations and the potential for a future low NOx rule.

We can be flexible on the timing for a meeting on May 15th. We are hoping that you would also invite other leaders in the Agency that could contribute to the discussion.

Please let me know what time would work and thanks for your consideration!

Best,

Traci Kraus

Director, Government Relations
Cummins Inc.

601 Pennsylvania Ave. NW
Suite 1100N
Washington, DC 20004
Office: 202-654-4285
Cell: 202-302-5851

Message

From: Thaker, Rahul [rahul.thaker@ncdenr.gov]
Sent: 5/22/2017 2:14:07 PM
To: Szymanski, Tauna M. [tszymanski@hunton.com]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Lynch, Lissa [llynch@nrdc.org]
Subject: Panel Session Summary - A&WMA's Annual Conference, Pittsburgh, PA, June 5-8, 2017
Attachments: FINAL EXTENDED ABSTRACT.docx

Importance: High

Tauna, Mandy, and Lissa:

I am summarizing below information you need for the panel session on Clean Power Plan (CPP) Litigation Updates and Road Ahead, at the subject conference:

(i) The panel session timing is Thursday, June 8th, 8 am - 9:40 am. There will be a total of four panelists as below:

Mandy Gunasekara
 Senior Policy Advisor, Office of the Administrator, EPA, Washington, D.C.
 [providing EPA perspectives]

State Environmental Agency Official
 [providing state agencies' perspectives, still in process of confirming the panelist, probably from PA environmental agency]

Tauna M. Szymanski
 Senior Attorney, Hunton & Williams, Washington, D.C.
 [providing electric power generation industry perspectives]

Lissa Lynch
 Climate Litigation Fellow, Natural Resources Defense Council, Washington, D.C.
 [providing environmental organizations' perspectives]

Each panelist will have a 20 minutes maximum for presentation. You need to talk / present on the assigned task as above, providing perspectives and latest information on various issues in this litigation. You need to also provide viewpoints on road ahead for everyone on this matter. You can also talk anything else if it is pertinent to this topic and if you have time available. You can have slides for presentation, but, it is not mandatory. The order of presentations will be as above. There will be a Q&A at the end of the session. The session abstract is attached with this message for your use.

(ii) The conference web page is <https://www.awma.org/ace2017>.

If you have not yet registered for the conference, please take care of it via the above page. If you are to come to this session only and do not attend any other sessions at the conference, it is possible to get a conference registration fees waiver.

In addition, the hotel accommodation information, technical program, etc. are also located at the same website.

(iii) I will be in Pittsburgh for the entire conference. If you need to contact me in Pittsburgh, my cellular number is (919) 285-9541.

(iv) If you are to have slides for your presentation, please remember to email me by June 2nd. Also, please send me your bio-sketch (1-2 paragraphs would be sufficient) by the same date, which would help in introducing you at the conference.

In summary, I thank each of you for your participation. I am delighted to have you on the panel. But, importantly, the conference attendees would benefit from your expert viewpoints.

Let me know if you have any other questions or if I can help.

Rahul

Rahul P. Thaker, P.E., QEP
Environmental Engineer
Division of Air Quality, Permitting Section
North Carolina Department of Environmental Quality

919 707 8740 office/fax
rahul.thaker@ncdenr.gov

217 West Jones Street
1641 Mail Service Center
Raleigh, NC 27699-1641



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Clean Power Plan (CPP) Litigation Updates and Road Ahead

A&WMA's 110th Annual Conference & Exhibition

Pittsburgh, Pennsylvania

June 5-8, 2017

Panel Extended Abstract # 260246

Rahul P. Thaker, P.E., QEP

NCDEQ Division of Air Quality, 217 West Jones Street, Raleigh, NC 27603

INTRODUCTION

The United States Environmental Protection Agency (EPA) promulgated Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units [EGUs], commonly known as Clean Power Plan [CPP], on October 23, 2015 (80 FR 64662) in accordance with §111(d) of the Clean Air Act (CAA).

Various challenges to this rule were filed with the courts on a number of issues.

On February 9, 2016, the Supreme Court of the United States (SCOTUS) stayed the implementation of the CPP, pending disposition of the challenges to the merits of the rule by the US Court of Appeals Court for the District of Columbia Circuit (USDC) and disposition of a writ of certiorari, if such writ is sought from the SCOTUS.

On September 27, 2016, all active judges of the USDC heard initial and final arguments (en banc review) on a number of issues: statutory issues, Section 112 issues, constitutional issues, notice issues, and record-based issues. This direct en banc review has been deemed unprecedented by the court observers, considering that the court initially hears any case via a randomly selected 3-judge panel. Only after the completion of this initial review (3-judge panel), the court reviews any petition for an en banc review on a particular case.

The decision from the USDC court is expected by early 2017. In addition, it is expected that the losing party generally would file a writ of certiorari to the SCOTUS.

With respect to EPA, states are not required to work towards any state plans and they have no obligation to spend resources to comply with the CPP, as per the EPA Administrator's letters to various Governors.¹

In addition, on March 28, 2017, President Trump issued an Executive Order on "Promoting Energy Independence and Economic Growth", directing EPA to review the final rules in CPP and, if appropriate, suspend, revise, or rescind the rule, through federal register (FR) public notice and comment process. The EPA Administrator announced on April 4, 2017, the initiation of review of

¹ See for example, letter from E. Scott Pruitt, EPA Administrator to Matt Bevin, Governor of Kentucky, March 30, 2017.

CPP through FR notice. Separately, the US Department of Justice (DOJ) on March 28, 2017, on behalf of EPA, noticed the USDC, requesting this court to keep the CPP litigation in abeyance while the agency conducts its review of CPP. Finally, if the rule is ultimately upheld by the courts, the new Trump administration is also likely shape the implementation of the CPP and could revise the rule.

Knowing all of the above, it is apparent that the clarity and finality on CPP litigation and its implementation is probably months to a year or more away.

OBJECTIVE

This panel session will include presentations/discussions on litigation updates and the possible road ahead for everyone involved in the implementation of CPP. Specifically, the speakers will discuss the upcoming USDC decision and how it affects the states. The speakers are also expected to discuss any writ to the SCOTUS (if a writ was granted) and its resulting effects. Moreover, the panel will explore potential changes in the EPA's position and direction, related to the regulation of CO₂ emissions from power plants under the administration of President Trump.

PANEL MEMBERS

The expert panel will include four speakers. Some of them are expected to be the some of the same attorneys who had argued the case before the USDC and / or helped obtain a stay from the SCOTUS. They will be from EPA or US Department of Justice, state agencies, and private law firm attorneys, providing perspectives of EPA, states, industry, and environmental petitioners.

They are as follows:

- Mandy Gunasekara (Invited)
Senior Policy Advisor, Office of the Administrator, EPA, Washington, D.C.
- Tauna M. Szymanski
Senior Attorney, Hunton & Williams, Washington, D.C.
- Sean Donahue (Invited)
Donahue & Goldberg, LLP, Washington, DC
- State Environmental Agency Representative

SUMMARY

The information provided by this high-level panel is expected to bring out discussions on litigation outcomes and provide insights on possible road ahead for the States, considering the new administration. It is the panel's sincere wish to better educate the attendees regarding various issues with this complicated regulation.

ACKNOWLEDGEMENTS

[PAGE * MERGEFORMAT]

The author expresses his gratitude to John C. Evans from the North Carolina Division of Air Quality, for reviewing and critiquing this abstract.

REFERENCES

1. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule, 80 FR 64662 (October 23, 2015).
2. West Virginia, et al. v. EPA, No. 15A773, Order in Pending Case, Approving the Application for a Stay of the EPA's Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662 (October 23, 2015), SCOTUS, Washington, D.C, February 9, 2016.
3. State of West Virginia v. EPA, No. 15-1363, Order (scheduling the arguments format, time and location - Courtroom 20 at 9:30 AM on Tuesday, September 27, 2016), USDC, Washington, D.C. August 17, 2016.
4. State of West Virginia v. EPA, No. 15-1363, Parts I and II Oral Argument Recordings, USDC, <https://www.cadc.uscourts.gov/recordings/recordings.nsf/DocsByRDate?OpenView&count=100&SKey=201609>.
5. Presidential Executive Order on Promoting Energy Independence and Economic Growth, The White House Office of the Press Secretary, March 28, 2017, <https://www.whitehouse.gov/the-press-office/2017/03/28/presidential-executive-order-promoting-energy-independence-and-economy-1>.
6. State of West Virginia v. EPA, No. 15-1363 (and consolidated cases), in the USDC, Notice of Executive Order, EPA Review of Clean Power Plan and Forthcoming Rulemaking, and Motion to Hold Cases in Abeyance, US DOJ, March 28, 2017.
7. Review of the Clean Power Plan, 82 FR 16329 (April 4, 2017).

KEYWORDS

Clean Power Plan, CPP, 111(d), State Plan, Clean Air Act, CAA, US Appeals Court for the District of Columbia, USDC, Supreme Court of the United States, SCOTUS, Trump Administration, Trump EPA, EPA.Environmental Defense Fund
Environmental Defense Fund

Message

From: Dominguez, Alex [Alex.Dominguez@mail.house.gov]
Sent: 5/23/2017 2:42:55 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Automatic reply: RVP Discussion

Thank you for contacting me. I am no longer with Congressman Renacci's office. If you need help getting in touch with the appropriate staff member please call 202-225-3876.
Alex

Message

From: Chuck Cunningham [chuckc@visi.net]
Sent: 5/18/2017 4:44:06 PM
To: Gunasekara, Surya [Surya@mail.house.gov]
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: CAFE Standards

Will see what our policy folks have and get it to you.

From: Gunasekara, Surya [mailto:Surya@mail.house.gov]
Sent: Thursday, May 18, 2017 12:11 PM
To: Chuck Cunningham
Cc: Gunasekara, Mandy
Subject: Re: CAFE Standards

Do you have a one-pager on what you want to see reformed? That would probably be more helpful.

Surya G. Gunasekara
Chief of Staff
Congressman Renacci (OH-16)

Sent from my iPhone

On May 18, 2017, at 12:08 PM, Chuck Cunningham <chuckc@visi.net> wrote:

Surya, thanks for this introduction. Great seeing you last night.

Mandy, I met Samantha when we met with General Pruitt and continue to communicate with her. I do not know and have not met Brittany Bolen.

Below are some recent articles and op-eds on fuel economy standards that should be informative and helpful:

[Automakers hope to reach US deal on 2025 vehicle emissions](#)

[Time to take fuel-efficiency mandates in for a checkup](#)

[SAFE Welcomes Review of Fuel Economy Standards, Urges Compromise Incorporating New Technologies and Business Models](#) (SAFE news release)

[Make energy security top goal](#) (Detroit News)

Fred Smith, retired military warn Washington about risks of foreign oil dependence (*Memphis Business Journal*)

Industry and environmentalists can both win on fuel economy. Here's how (*Forbes*)

Trump Plans to Review Fuel Economy Standards, and Maybe That's a Good Thing (*Greentech Media*)

In Michigan Visit, President Trump Reopens Review of Fuel-Economy Standards (*Car and Driver*)

Trump takes steps toward undoing Obama's auto emissions limits (*Politico*)

Chuck

Charles H. Cunningham

ChuckC@visi.net

Senior Vice President for Government Relations and External Affairs

Securing America's Future Energy (SAFE)

1111 Nineteenth Street, N.W., Suite 406

Washington, D.C. 20036-3627

(202) 461-2369

(202) 461-2379 (FAX)

----- Original message -----

From: "Gunasekara, Mandy" <Gunasekara.Mandy@epa.gov>

Date: 5/18/17 9:57 AM (GMT-05:00)

To: "Gunasekara, Surya" <Surya@mail.house.gov>

Cc: Chuck Cunningham <chuckc@visi.net>

Subject: Re: CAFE Standards

Thanks, Surya.

Chuck, our Policy Office (Samantha Dravis, Brittany Bolen) have taken the lead on Cafe issues. I'm happy to connect but can you provide a bit more specificity?

Thanks,
Mandy

Sent from my iPhone

On May 18, 2017, at 9:19 AM, Gunasekara, Surya <Surya@mail.house.gov> wrote:

Hey Chuck,

Good seeing you last night.

As promised, I have connected you with my wife Mandy. She can direct you to the appropriate contact depending on your specific requests.

Surya

Surya G. Gunasekara
Chief of Staff
Congressman Jim Renacci (16th-OH)
328 Cannon House Office Building
Washington, DC 20515
O: (202) 225-3876
F: (202) 225-3059

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<image005.jpg>

[Click here to receive Jims's weekly email updates](#)

[Spam](#)

[Phish/Fraud](#)

[Not spam](#)

[Forget previous vote](#)



May 23, 2017

The Honorable Scott Pruitt
 Administrator
 U.S. Environmental Protection Agency
 1200 Pennsylvania Avenue, NW
 Washington DC 20460

Re: 2018 RVO for Advanced Biofuels and the 2019 RVO for Biomass-based Diesel

Dear Administrator Pruitt:

As the U.S. Environmental Protection Agency (EPA) moves forward with setting the Renewable Volume Obligation (RVOs) for "Advanced Biofuels" for 2018 and "Biomass-based Diesel" for 2019 (biodiesel and renewable diesel) under the Renewable Fuel Standard (RFS), I would encourage you to *follow the law* as directed by Congress for both programs.

World Energy has been a leader in biofuel supply since the inception of the biodiesel industry fully two decades ago and is one of America's largest suppliers of biodiesel offering over 200 Million gallons of annual biodiesel production from four plants in the United States. As a domestic energy producer, I can attest that policy certainty and the rule of law is vital to our success.

Recently, on March 9th at the CERAWEEK conference, you said, "we need to provide certainty in the marketplace so that investments can be made to encourage growth and respect the *rule of law*." Additionally you discussed "regulatory overreach" and stated that the lawsuits you initiated while serving as Attorney General of Oklahoma, "were initiated largely because decisions were being made at the agency that didn't *respect the statutory framework put forth by Congress*."

World Energy shares this sentiment. Increasing the domestic production and use of Advanced Biofuels was clearly one of the primary goals of the *Energy Independence and Security Act of 2007* (P.L. 110-140). In EISA, Congress sought "[t]o move the United States toward greater energy independence and security, [and] to increase the production of clean renewable fuels." Specifically, EISA "set forth the minimum annual volumes for each year... and defined transportation fuel to include both gasoline and *diesel fuel*." Additionally, the D.C. Circuit Court found, Congress "directed" EPA "to ensure that transportation fuel sold or introduced into commerce in the United States ..., on an annual average basis, contains at least the applicable volume of renewable fuel" under the statute.

Most recently on April 24, 2017 at oral argument before the D.C. Circuit Court in a challenge to EPA's waiver authority, Judge Brett Kavanaugh stated, "The point [of the statute] was to force the market to develop." He also said, "the statute doesn't seem to give EPA the authority to fix everything that is not working right."

World Energy Boston
 World Energy Rome
 World Energy Harrisburg

185 Devonshire Street, Boston, MA. 02110
 555 W Hermitage Road, Rome, GA. 30161
 2850 Appleton Street Suite E, Camp Hill, PA. 17011

(617)889-7300
 (706)291-4829
 (717)512-8195



Additionally, Judge Patricia Millett stated, "the whole reason this statute exists is to force front-end creation so there will be that material for consumers to use.... It seems a little odd to say that EPA ... could say ...we can waive all of these obligations." "That seems to be at war with the whole notion of change and seems to be the one place the Congress didn't want EPA to look." She also said, "When you do act, there has to be a framework."

Therefore, we encourage EPA through the annual RVO rulemaking process to follow the statute and implement volumes for Advanced Biofuels and Biomass-based Diesel in a manner that is consistent with the intent of Congress and that captures the full potential of the biodiesel and renewable diesel industries, which is capable of producing at least 5.25 billion gallons of Advanced Biofuels in 2018.

Due to the RIN values established by Congress by statute, this amounts to only 2.94 billion gallons of biodiesel and renewable diesel. By point of reference, nearly 2.9 billion gallons of biodiesel and renewable diesel were consumed domestically in 2016. We think it is wholly appropriate to set next year's volume level for biodiesel and renewable diesel at a level that is at a minimum consistent with last year's actual usage level.

The biodiesel industry has made great strides in producing domestic energy and diversifying our nation's fuel supply. We have done what Congress has asked us to do and we are creating real manufacturing jobs, generating tax revenue and improving our energy security. We encourage you to take this new opportunity to support the RFS as Congress intended and to support higher RVOs for Advanced Biofuels.

Thank you for consideration.

Sincerely,

A handwritten signature in dark ink, appearing to read "Gene Gebolys", with a long horizontal flourish extending to the right.

Gene Gebolys
President and CEO

World Energy Boston
World Energy Rome
World Energy Harrisburg

185 Devonshire Street, Boston, MA. 02110
555 W Hermitage Road, Rome, GA. 30161
2850 Appleton Street Suite E, Camp Hill, PA. 17011

(617)889-7300
(706)291-4829
(717)512-8195

2018 RFS AND 2019 BIOMASS-BASED DIESEL - BIODIESEL, RENEWABLE DIESEL AND ADVANCED BIOFUELS

Meeting with Office of Management and Budget
May 23, 2017



WHO WE ARE

- **U.S. biodiesel and renewable diesel producers, feedstock providers, distributors and marketers – members represent the entire value chain**
- **Kent Engelbrecht, ADM**
 - **Chairman of NBB's Governing Board**
- **Gary Haer, REG**
 - **Co-Chair of NBB's RVO Working Group**
- **Gene Gebolys, World Energy**
 - **Co-Chair of NBB's RVO Working Group**
- **Jonathan Phillips, RBF**
 - **Owner of the largest U.S. biodiesel plant, located near Houston, TX**

These four companies alone represent over 1 billion gallons of production capacity.



EPA MUST CONTINUE TO GROW THE RFS VOLUMES

- Congress “prioritized” growth “as occurring principally in advanced biofuels” (81 Fed. Reg. at 89,761)
 - “Implied” conventional at 15 billion ethanol-equivalent gallons
 - “Those targets need to be respected.”

- Scott Pruitt, Confirmation Hearing, Jan. 18, 2017, *quoted in* Marc Heller, *Pruitt: RFS targets ‘need to be respected,’* E&E News, Jan. 19, 2017.

- **2016 RFS**

- EPA estimated 2.5 billion gallons total biodiesel and renewable diesel as “maximum” – 80 Fed. Reg. at 77,444
- Biomass-Based Diesel production alone exceeded 2.6 billion (over 4 billion RINs generated)*
- RIN Values consistent

- **2017 RFS**

- EPA set at 4.28 billion ethanol-equivalent gallons (over 4.29 billion advanced RINs generated)*
- First quarter RIN generation exceeds that of 2016

Biomass-Based Diesel is providing the environmental, economic and energy security benefits sought.

*Based on EPA EMTS



2018 RFS AND 2019 BIOMASS-BASED DIESEL – THERE IS MORE THAN ADEQUATE DOMESTIC SUPPLY

- **2018 Advanced Biofuels – At least 5.25 billion ethanol-equivalent gallons can be easily achieved**
 - Biomass-Based Diesel needed would still be below domestic capacity
 - Imports continue to increase and more available, registered capacity
 - There is feedstock available
 - No limitations on distributing and using B20 throughout diesel and distillate fuel market
- **2019 Biomass-Based Diesel – At least 2.75 billion gallons**
 - Strong growth signals provide assurances for continued investment

Certainty through timely action is key. The Biomass-based Diesel industry can and has responded.

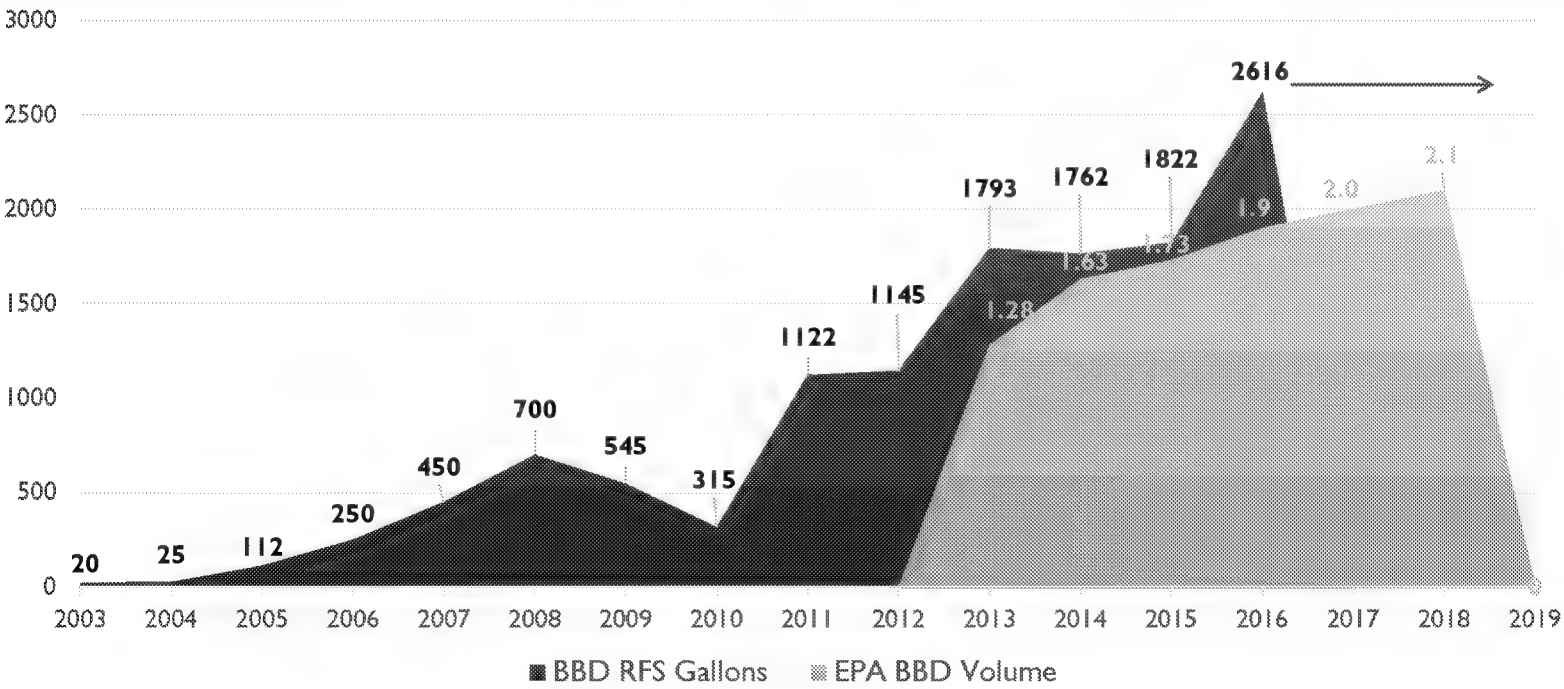


INDUSTRY OVERVIEW

U.S. Biomass-Based Diesel Market

(millions of gallons)

Source: EPA EMTS (data as of April 10, 2017)



A 2.75 BILLION GALLON D4 MANDATE FOR 2019 WILL NOT UNDERMINE COMPETITION IN ADVANCED BIOFUELS

- 2.75 billion gallon BBD mandate supports competition by:
 - Retaining existing unused US capacity (<65% capacity utilization – based on EIA, not counting many closed/idled plants)
 - Expanding and diversifying US biodiesel capacity
 - Promoting additional distribution investments
 - Allowing for lower transportation costs with increased scale
- BBD doesn't compete with other advanced fuels, e.g., cellulosic
 - No “crowding out” effect from increased D4 mandate
 - Supports certainty and increased investment in advanced biofuels
 - Only other commercial-scale advanced biofuel: sugarcane ethanol imports into gasoline market
 - Uses beyond motor vehicles



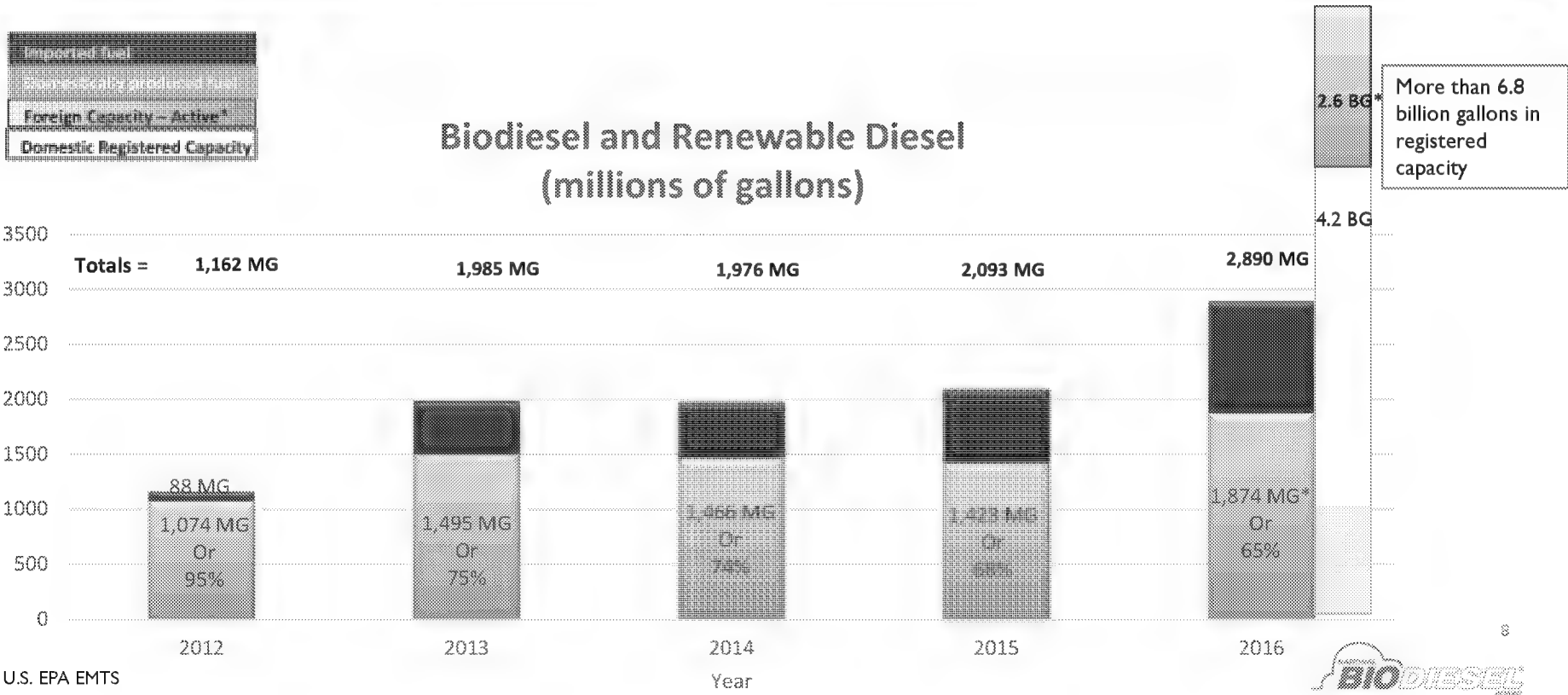
MORE THAN SUFFICIENT AVAILABLE SUPPLY

- **EPA estimates U.S. biodiesel registered capacity at approximately 3.5 billion gallons (81 Fed. Reg. at 89,782)**
- **EPA estimates U.S. renewable diesel registered capacity at approximately 0.7 billion gallons (81 Fed. Reg. at 89,872)**
 - **3.5 plus .7 = 4.2 billion gallons (>6 billion RINs)**
- **Then there's foreign registered production capacity and domestic D5**
 - **Over 4 Billion Gallons in D4 Registered Capacity (Imports discussed later) (as of May 2016)**
 - **Over 4 Billion Ethanol-Equivalent Gallons in D5 Foreign Registered Capacity (Genscape)**
 - **Over 1 Billion Ethanol-Equivalent Gallons in D5 Domestic Capacity (Genscape)**
 - **Almost 800 Million Gallons in D3/D7 Foreign/Domestic Capacity (Genscape)**

Around 18 Billion Potential Available RINs.

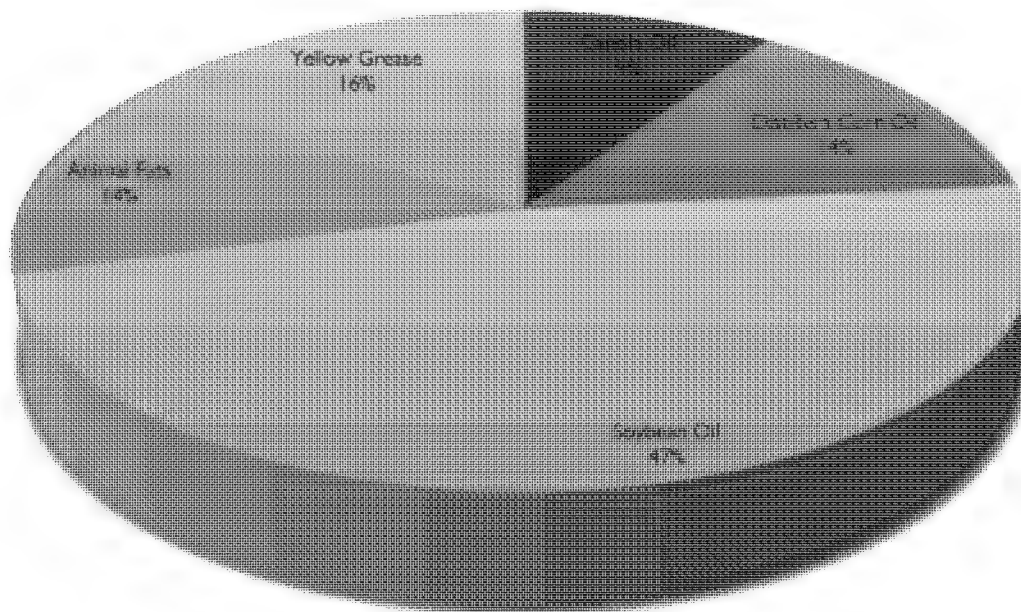


IMPORTS



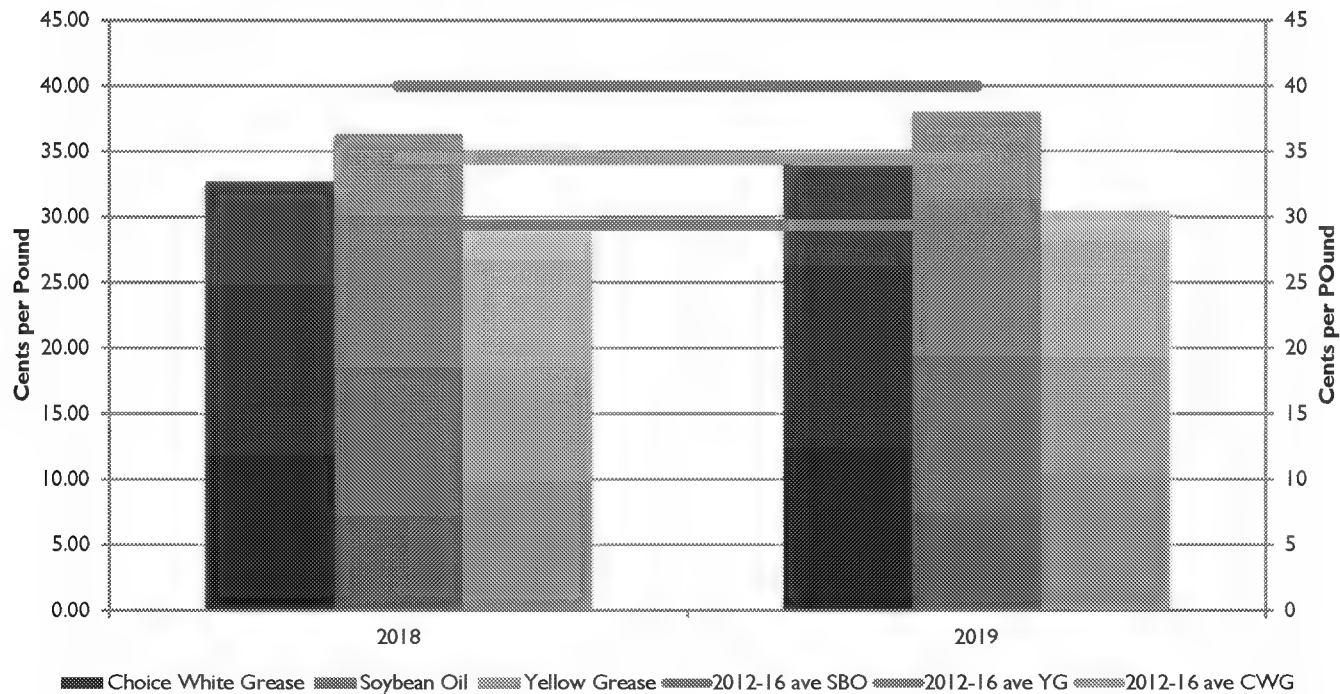
Data collected from U.S. EPA EMTS
*From Key Countries

FEEDSTOCKS FOR BIOMASS-BASED DIESEL



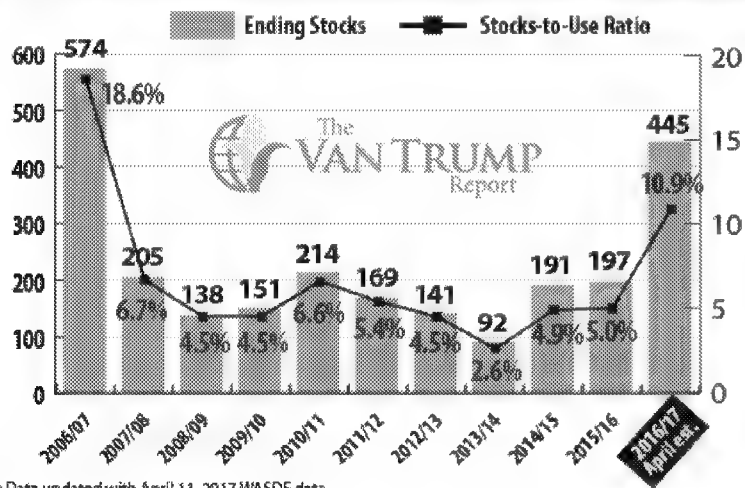
FEEDSTOCK PRICES AT OR BELOW 5 YEAR AVERAGE

**Feedstock Prices with BBD RVO at 2.75 billion in 2019 and
Advanced Biofuels RVO at 5.25 billion in 2018**



MORE THAN SUFFICIENT FEEDSTOCK 2017 TRENDS INDICATE INCREASED RAW MATERIAL SUPPLIES

U.S. Soybean Stocks-to-Use



- Large projected US supplies of vegetable oils
 - Record US soybean acreage in 2017 (Mar Prospective Plantings Report)
 - Stocks to Use ratio projected to be 2x recent years
- Record US meat production (2017 AgOutlook Forum)
- Large South American crop harvested (WASDE)

MORE THAN SUFFICIENT FEEDSTOCK EXPANSION OF SLAUGHTERING CAPACITY

Pork Packing Capacity Expansion Plans

U.S. Packing Capacity Under Construction						
	Fall 2016		Fall 2017		Fall 2018	
	Daily Hd	Ann Hd	Daily Hd	Ann Hd	Daily Hd	Ann Hd
Pleasant Hope, MO	2,500	625,000	2,500	625,000	2,500	625,000
Windom, MN			4,000	1,000,000	4,000	1,000,000
Sioux City, IA			12,000	3,000,000	12,000*	3,000,000
Coldwater, MI			10,000	2,500,000	10,000	2,500,000
Wright County, IA					10,000	2,500,000
Total	2,500	625,000	28,500	7,125,000	38,500	9,625,000
Head per week		12,019		137,019		185,096
Pct of '15 avg = 2.195 mil.		0.5%		6.2%		8.4%
Pct of '15 max = 2.507 mil.		0.5%		5.5%		7.4%

*This plant could process 20,000 head per day if double-shifted by the end of 2018

Last Updated: 11/2/16

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pork
checkoff.

BIO DIESEL

12

MORE THAN SUFFICIENT FEEDSTOCK EXPANSION OF OILSEED PROCESSING CAPACITY

■ Recent Headlines

- Ag Processing Inc. to Construct Soybean Processing Plant in South Dakota—Dec 12, 2016
- Zeeland Farm Services building second soybean facility in Ithaca —October 5, 2016
- Minnesota Soybean Processors to pursue ND soybean processing plant —Feb 8, 2017



THANK YOU!

- **2018 Advanced Biofuel**
= at least 5.25 billion gallons
- **2019 Biomass-based Diesel Volume**
= at least 2.75 billion gallons



Message

From: Gunasekara, Surya [Surya@mail.house.gov]
Sent: 5/3/2017 4:37:12 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Fwd: Letter to EPA on Formaldehyde Regs
Attachments: 03.31.17 Industry Letter to Pruitt on Formaldehyde.pdf; ATT00001.htm; 03.31.17 Industry Recs on Reg Improvements.pdf; ATT00002.htm; 05.02.17 Letter to Pruitt on Formaldehyde Standard Review.docx; ATT00003.htm

Surya G. Gunasekara
 Chief of Staff
 Congressman Renacci (OH-16)

Sent from my iPhone

Begin forwarded message:

From: "Hamill, Bobby" <Bobby.Hamill@mail.house.gov>
Date: May 3, 2017 at 12:09:16 PM EDT
To: "Hamill, Bobby" <Bobby.Hamill@mail.house.gov>
Subject: Letter to EPA on Formaldehyde Regs

LDs –

Rep. Griffith asks for your support on a letter to EPA Administrator Pruitt regarding the final rule for Formaldehyde Emissions Standards for Composite Wood Products (see attached and below).

This letter is supported by the American Home Furnishings Alliance, Home Furnishings Association, Kitchen Cabinet Manufacturers Association, International Wood Products Association, Recreational Vehicle Industry Association, National Retail Federation, and Retail Industry Leaders Association. It is in line with a letter and recommendations from these associations on this topic (see attached PDFs).

In short, the letter urges the EPA to:

- <!--[if !supportLists]--><!--[endif]-->Not only adjust any required compliance dates established under this rule (due to delayed implementation of the rule) to at least reflect the time periods allowed under the original final rule, but also provide an additional 12 month extension to ensure there is sufficient supply of certified composite wood products throughout the supply chain.
- <!--[if !supportLists]--><!--[endif]-->Allow for the voluntary labeling of compliant products prior to the date on which compliance will be required.
- <!--[if !supportLists]--><!--[endif]-->Exercise its authority and exclude laminated products, produced as component parts of finished goods, from the definition of “hardwood plywood”.
- <!--[if !supportLists]--><!--[endif]-->Thoroughly review the rule’s import certification requirement – and whether any affirmative findings merit this requirement – before applying it to composite wood products.

We plan on closing this letter **next Wednesday, May 10th**. Please let me know if your Member would like to sign on.

Thank you,

Bobby Hamill
Legislative Director
Office of Rep. H. Morgan Griffith (VA-09)
(202) 225-3861 (O)

May 2, 2017

The Honorable Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Pruitt:

As you continue your review and evaluation of recently implemented regulations, we write to bring your attention in particular to the final rule for Formaldehyde Emissions Standards for Composite Wood Products. We appreciate your delaying the effective date for this rule until May 22, 2017 as you conduct this review, but believe that the rule as it stands would nevertheless severely disrupt the operations of the composite wood products supply chain.

While the effective date of this rule has been delayed until May 22, 2017, the subsequent December 12, 2017 implementation date remains the same, significantly shortening the timeline for third-party certifiers, panel manufacturers, fabricators, importers, distributors, and retailers to all come into compliance. We urge the EPA to not only adjust any required compliance dates established under this rule to at least reflect the time periods allowed under the original final rule, but also provide an additional 12 month extension to ensure there is sufficient supply of certified composite wood products throughout the supply chain.

The regulation also apparently prohibits new Toxic Substances Control Act (TSCA)-compliant product labeling at any time prior to December 12, 2017, but then requires the new TSCA-compliant labeling on and after December 12, 2017. This is the wrong interpretation of Congressional intent. Instead, the statutory language rightly provides that entities should not be forced to label their products prior to the required compliance date, but in no way prevents entities that do comply with the new regulations from appropriately labeling their compliant products prior to that date. The EPA's interpretation would create significant inventory and supply chain disruptions for entities attempting to voluntarily comply with the new regulation prior to the implementation date. In order to minimize this impact, we urge you to allow for the voluntary labeling of compliant products prior to the date on which compliance will be required.

Additionally, Congress gave EPA authority to exempt laminated products from the definition of "hardwood plywood". We believe there is sufficient industry and technical data to warrant such an exemption. As currently written, the final rule would impose substantial, unwarranted new costs on the supply chain, with little or no corresponding benefit. The application of a wood face veneer over a certified and compliant composite wood product platform should not be subject to

additional testing. This is a reasonable and safe approach to regulating the industry that relies on engineered wood products and satisfies the intent of Congress while maintaining the integrity of the rule. We respectfully request that EPA exercise its authority and exclude laminated products, produced as component parts of finished goods, from the definition of “hardwood plywood”.

Finally, we have concerns regarding the precedent that the EPA is setting by, for the first time, applying the import certification requirements of TSCA to composite wood products as “articles”. This would be on top of and duplicative of newly established labeling, testing, certification, recordkeeping, and reporting requirements. It is our understanding that until this rule, these import certification requirements have only been applied to bulk chemicals and mixtures of toxic chemicals, and not to articles that merely contain regulated chemicals. We urge you to thoroughly review this import certification requirement – and whether any affirmative findings merit this requirement – before applying it to composite wood products.

We appreciate your review of this regulation and look forward to your response on what actions you plan to take to address these concerns.

Sincerely,



Kitchen Cabinet
Manufacturers Association™



March 31, 2017

The Honorable Scott Pruitt
Administrator
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, NW
Mail Code: 1101A
Washington, DC 20460

Dear Administrator Pruitt:

We appreciate and thank the Environmental Protection Agency for taking a close look at recently promulgated regulations. While we are pleased in particular that EPA is taking time to review and has therefore delayed the effective date of the Formaldehyde Emissions Standards for Composite Wood Products Final Rule, 81. Fed. Reg. 889674 (Dec. 12, 2017) and 82 Fed. Reg. 14324 (Mar. 20, 2016), we are deeply concerned that if the final rule goes into effect in its current form this delay in the effective date - without also amending all the internal implementation dates - will have an adverse effect on regulated industries.

If the Formaldehyde Composite Wood rule goes into effect as currently slated on May 22, 2017, EPA will have reduced the time available for Third-Party Certifiers (TPCs), panel manufacturers, fabricators, importers, distributors and retailers to obtain compliance by the mandated date of December 12, 2017, creating a substantially increased regulatory burden. Importantly, EPA in its March 20, 2017 final rule further delaying the effective date, has changed the effective date of the rule, but has *not* revised any of the implementation dates for all other provisions of the rule.

Under this rule, EPA must first recognize Product and Laboratory Accreditation Bodies, only then can a Third-Party Certifier apply for and be recognized by EPA. Panel manufacturers must have an EPA-recognized Third-Party Certifier certify its production processes and only when that task is complete can it be approved to manufacture EPA / TSCA compliant wood composite panels. Covered products must be compliant and labeled by December 12, 2017 to be sold in the U.S. In turn, fabricators, importers, distributors and retailers must wait until these steps are complete to be able to supply compliant products to the marketplace. All of this action cannot begin until the rule is in effect.

We strongly urge EPA to amend the internal implementation dates so that all of the rule's mandatory dates for compliance reflect *at a minimum* the lead times in the original final rule.

For example, under the regulation as finalized on December 12, 2016, Third-Party Certifiers (TPCs) were first going to be able to apply to EPA for recognition on February 10, 2017 -- the effective date of the regulation. As you know, this effective date was delayed by 60 days in accordance with White House Chief of Staff Reince Priebus' January 20th Memorandum for the Heads of Executive Departments and Agencies concerning Regulatory Freeze Pending Review. EPA's March 20th Further Delay of Effective Dates for Five Final Regulations Published by the Environmental Protection Agency Between December 12, 2016 and January 17, 2017 will now delay that effective date until May 22, 2017. This shortens the timeline for TPC's recognition substantially and puts tremendous pressure on EPA to process these applications quickly.

Also under the regulation, beginning December 12, 2017, one year after the regulation's original effective date, all covered wood products must be labeled as TSCA compliant. While we initially communicated our concerns about this tight one-year timeframe to EPA staff, the two delays have eliminated four months before the process can begin. We are concerned that the shrinking timeframe combined with limited staffing at EPA to process applications, finite TPC capacity, and the large number of composite wood product producers that must be visited will make it nearly impossible for U.S. businesses to bring their supply chains into compliance.

While at a minimum EPA should restore the lead times included in the original final rule, we believe a further 12 month extension is warranted.

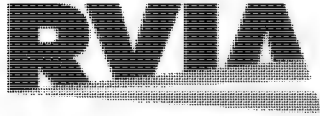
The most recent delay prohibiting Accrediting Bodies (ABs) and TPCs from submitting applications to the agency for review and approval limits fabricators, importers, and distributors from sourcing compliant platforms used to produce laminated products. These laminated products are used as component parts of finished goods, i.e. furniture, wood flooring, cabinetry, and countless other consumer goods. The most recent delay in the effective date, combined with the 3-months anticipated for the agency to issue a direct final rule, severely limits the ability of the supply chain to source compliant composite wood products and truncates the compliance by possibly 6-months. The most workable solution would be for EPA to tie the rule's compliance timeline to the final effective date published in the Federal Register following EPA's latest review of the regulation and grant a 12-month extension to allow the various compliance milestones to be met and ensure the adequate supply of certified composite wood products throughout the supply chain.

For your review, we have also attached a document we have prepared outlining additional concerns about this regulation and its impact on U.S. businesses. We are hopeful that these additional concerns will also be taken into account as your staff reviews this rule.

Thank you for your attention to this important matter. We look forward to working closely with you and your staff to address this important issue that will make compliance nearly impossible for U.S. businesses. We welcome a meeting to discuss further these issues.

Sincerely,

American Home Furnishings Alliance
 Kitchen Cabinet Manufacturers Association
 International Wood Products Association
 Recreational Vehicle Industry Association
 National Retail Federation
 Retail Industry Leaders Association



Regulation: Formaldehyde Emission Standards for Composite Wood Products (40 CFR Part 770, Published December 12, 2016) (81 FR 89674)

Agencies involved: Environmental Protection Agency, Customs and Border Protection

We at the American Home Furnishings Alliance, the Kitchen Cabinet Manufacturers Association, the International Wood Products Associations, the Recreational Vehicle Industry Association, the National Retail Federation, and the Retail Industry Leaders Association urge the Trump Administration to substantially improve or eliminate the EPA's Formaldehyde Emissions Standards for Composite Wood Products regulation. This new regulation will severely disrupt the supply chain for U.S. businesses manufacturing and selling products that include composite wood products such as furniture, cabinetry, wood flooring, recreational vehicles and many others consumer goods. The challenges associated with complying with this misguided regulation will lead to higher prices for U.S. consumers and the loss of good paying American jobs.

Our Associations are particularly concerned about the following provisions:

Effective Date and Compliance Timeline: The regulation as finalized on December 12, 2016, was originally set to become effective on February 10, 2017, and there are subsequent compliance milestones explicitly stated in the regulation. This effective date was delayed by 60 days in accordance with White House Chief of Staff Reince Priebus' January 20th Memorandum for the Heads of Executive Departments and Agencies concerning Regulatory Freeze Pending Review. On March 20th, EPA delayed the effective date until May 22, 2017. This shortens the timeline for Third-Party Certifier (TPC) recognition substantially and puts tremendous pressure on EPA to process these applications quickly. We are deeply concerned that if the final rule goes into effect in its current form with this delay in the effective date - without also amending all the internal implementation dates - it will have an adverse effect on regulated industries.

If this rule goes into effect as currently proposed on May 22, 2017, EPA will have reduced the time available for TPCs, panel manufacturers, fabricators, importers, distributors and retailers to obtain compliance by the mandated date of December 12, 2017, creating a substantially increased regulatory burden. Under this rule, EPA must first recognize Product and Laboratory Accreditation Bodies, only then can a TPC apply for and be recognized by EPA. Panel manufacturers must have an EPA-recognized TPC certify its production processes and only when that task is complete can it be approved to manufacture EPA / TSCA compliant wood composite panels. Covered products must be compliant and labeled by December 12, 2017 to be sold in the U.S. In turn, fabricators, importers, distributors and retailers must wait until these steps are complete to be able to supply compliant products to the marketplace. All of this action cannot begin until the rule is in effect. We strongly urge EPA to amend the internal implementation dates so that all of the rule's mandatory dates for compliance reflect *at a minimum* the lead times in the original final rule.

Also under the regulation, beginning December 12, 2017, one year after the regulation's original effective date, all covered wood products must be labeled as TSCA compliant. While we initially communicated our concerns about this tight one-year timeframe to EPA staff, the two delays have eliminated four months before the process can begin. We are concerned that the shrinking timeframe combined with limited staffing at EPA to process applications, finite TPC capacity, and the large number of composite wood product producers that must be visited will make it nearly impossible for U.S. businesses to bring their supply chains into compliance.

While at a minimum EPA should restore the lead times included in the original final rule, we believe a further 12 month extension is warranted. The most recent delay prohibiting Accrediting Bodies (ABs) and TPCs from submitting applications to the agency for review and approval limits fabricators, importers, and distributors from sourcing compliant platforms used to produce laminated products. These laminated products are used as component parts of finished goods, i.e. furniture, wood flooring, cabinetry, and countless other consumer goods. The most recent delay in the effective date, combined with the 3-months anticipated for the agency to issue a direct final rule, severely limits the ability of the supply chain to source compliant composite wood products and truncates the compliance by possibly 6-months. The most workable solution would be for EPA to tie the rule's compliance timeline to the final effective date published in the Federal Register following EPA's latest review of the regulation and grant a 12-month extension to allow the various compliance milestones to be met and ensure the adequate supply of certified composite wood products throughout the supply chain.

Non-Complying Lots: This provision, 40 C.F.R. § 770.20(f), applies to a fabricator who receives notification from a panel producer that panels it received were part of a lot that failed an emissions test. The provision arguably requires the fabricator to notify its customers to which it may have shipped finished products containing component parts made from those panels. The fabricator's notification must inform its customers that those finished products must be isolated; cannot be further distributed; and must either be recalled or treated and retested. This non-complying lots provision appears to be designed with panels and a short supply chain in mind. But it makes no sense when applied to finished goods that may or may not contain component parts from those panels, for several reasons.

First, by the time the fabricator receives the panel producer's notification, the panels almost certainly no longer exist as panels. Instead, the fabricator will almost certainly have cut up the affected panels it received into component parts, incorporated those component parts into finished goods, and shipped those finished goods. Second, the affected panels are untraceable once they are incorporated into finished goods. A fabricator does not track which panels go into which finished goods. Thus, it is infeasible to trace which customers received finished goods made from the affected panels. Third, in the fabrication process the panels are covered with veneers or other coatings. This means that it is no longer feasible to test the panels accurately for compliance with the emissions limits. Fourth, the fabricator's notification is very likely to be completely unnecessary, because by the time the customer receives its notification, the affected panels will probably have aged to the point that they now meet the emissions limits.

This dilemma for fabricators was not addressed in the proposed rule, which did not propose to require fabricators to notify their customers. Instead, it proposed to require panel producers to store panels until test results confirmed compliance. The final rule dropped that requirement, however, and instead required fabricator notifications. This means that the implications of a fabricator notification requirement were not subjected to notice and comment or even extensive consideration by EPA.

Early Compliance with Labeling Requirement: We respectfully request that EPA allow for the voluntary truthful labeling of compliant products prior to December 12, 2017. While at first glance it may appear that the final rule will require a rather simple change over to new *TSCA Title VI Compliant* labels, in fact the precipitate change in labeling – prohibited on December 11, 2017 and required on December 12, 2017 – would cause untold confusion in the marketplace and unnecessary burdens for panel producers, fabricators, distributors and retailers who seek to roll-out new TSCA-compliant SKUs and manage their inventories to address potential seasonal disruptions, while voluntarily and legitimately complying with the new regulation *prior to* the effective date.

There is no statutory requirement for the regulation's early labeling prohibition. The statute directs EPA to promulgate regulations regarding labeling, but addresses timing of the labeling in the following language:

(B) IMPLEMENTING REGULATIONS – the regulations promulgated under this subsection shall – (II) not require any labeling or testing of composite wood products or finished goods containing regulated composite wood products manufactured before the designated date of manufacturer.

The statutory language is very logical. Regulated entities should not be required to label before the underlying regulations take effect. However, the statutory prohibition on the EPA not requiring such labeling has morphed into a regulatory prohibition on manufacturers from labeling. This was not contemplated by the Congress and is not supported by a close reading of the Statute.

Import Certification: This regulation marks the first time EPA has applied the import certification requirements of TSCA to “articles.”ⁱⁱ Until now articles containing regulated chemicals have generally been exempt from TSCA. This unprecedented shift results in costly double regulation for composite wood product imports, which are already subject to the formaldehyde emission standards and the associated, labeling, testing, Third Party Certification, chain-of-custody, recordkeeping, and reporting requirements. This additional burden is unnecessary and provides no added public safety benefit.

When this regulation was being developed, EPA’s weak justification was that import certifications are a potential “reminder” to importers. With every single imported shipment already required to meet labeling and documentation requirements, there is *no* justification for the conclusion that importers need such a reminder.

EPA also refers to import certification as a “compliance monitoring tool” -- this negates the fact that typically this tool is only used for bulk chemicals and mixtures of toxic chemicals that are *not* independently subject to other compliance monitoring. In contrast, composite wood products are engaged in significant compliance monitoring, Third Party Certification, labeling and reporting. In addition, EPA has never before applied import certification requirements to articles and should not have made such a major change to this well-established policy without a dedicated review.

Under this regulation, importers (or their authorized agents) must certify either that each shipment is subject to TSCA and complies with all applicable rules and orders thereunder (positive certification), or that the chemical shipment is not subject to TSCA (negative certification). This statement must be on or attached to a commercial invoice or entry document belonging to the imported shipment. This requires costly coordination with importing agents and brokers, revision of international forms and documents, the submission of additional paperwork, adjustments to internal processes, and training – all on top of the already substantial requirements of the broader Formaldehyde Emission Standards for Composite Wood Products regulation. In addition, CBP is now required to review a flood of new import certifications. For those products exempted under the rule it is not clear if they would also be forced to do a negative certification. That additional requirement could snare scores of companies otherwise exempted from the rule. Such a result will only lead to more confusion, unnecessary paperwork, and costly analysis for each entry.

Laminated Products Exemption: EPA disregarded their legislative mandate to evaluate laminated products by ignoring available and published data suggesting that finished furniture dramatically reduces the emission profile of laminated products used as component parts of finished goods. In the final rule, EPA gave no credit or recognition to the value added process of finished furniture. It should be noted that EPA has discretion to exempt laminated products based on published, available, and relevant information asserting such an exemption is justified. Industry stakeholders submitted to the docket data that suggest an exemption is warranted and should be included in the final rule.

ⁱⁱ TSCA defines “article” as “a manufactured item (1) which is formed to a specific shape or design during manufacture, (2) which has end-use function(s) depending in whole or in part upon its shape or design during end use, and (3) which has either no change of chemical composition during its end use or only those changes of composition that have no commercial purpose separate from that of an article, and that results from a chemical reaction that occurs upon end use of other chemical substances, mixtures, or articles.” “Articles” that contain chemical substances which are not intended to be removed and have no separate commercial purpose have until now been generally exempt from TSCA.

May 2, 2017

The Honorable Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Pruitt:

As you continue your review and evaluation of recently implemented regulations, we write to bring your attention in particular to the final rule for Formaldehyde Emissions Standards for Composite Wood Products. We appreciate your delaying the effective date for this rule until May 22, 2017 as you conduct this review, but believe that the rule as it stands would nevertheless severely disrupt the operations of the composite wood products supply chain.

While the effective date of this rule has been delayed until May 22, 2017, the subsequent December 12, 2017 implementation date remains the same, significantly shortening the timeline for third-party certifiers, panel manufacturers, fabricators, importers, distributors, and retailers to all come into compliance. We urge the EPA to not only adjust any required compliance dates established under this rule to at least reflect the time periods allowed under the original final rule, but also provide an additional 12 month extension to ensure there is sufficient supply of certified composite wood products throughout the supply chain.

The regulation also apparently prohibits new Toxic Substances Control Act (TSCA)-compliant product labeling at any time prior to December 12, 2017, but then requires the new TSCA-compliant labeling on and after December 12, 2017. This is the wrong interpretation of Congressional intent. Instead, the statutory language rightly provides that entities should not be forced to label their products prior to the required compliance date, but in no way prevents entities that do comply with the new regulations from appropriately labeling their compliant products prior to that date. The EPA's interpretation would create significant inventory and supply chain disruptions for entities attempting to voluntarily comply with the new regulation prior to the implementation date. In order to minimize this impact, we urge you to allow for the voluntary labeling of compliant products prior to the date on which compliance will be required.

Additionally, Congress gave EPA authority to exempt laminated products from the definition of "hardwood plywood". We believe there is sufficient industry and technical data to warrant such an exemption. As currently written, the final rule would impose substantial, unwarranted new costs on the supply chain, with little or no corresponding benefit. The application of a wood face veneer over a certified and compliant composite wood product platform should not be subject to additional testing. This is a reasonable and safe approach to regulating the industry that relies on engineered wood products and satisfies the intent of Congress while maintaining the integrity of the rule. We respectfully request that EPA exercise its authority and exclude laminated products, produced as component parts of finished goods, from the definition of "hardwood plywood".

Finally, we have concerns regarding the precedent that the EPA is setting by, for the first time, applying the import certification requirements of TSCA to composite wood products as “articles”. This would be on top of and duplicative of newly established labeling, testing, certification, recordkeeping, and reporting requirements. It is our understanding that until this rule, these import certification requirements have only been applied to bulk chemicals and mixtures of toxic chemicals, and not to articles that merely contain regulated chemicals. We urge you to thoroughly review this import certification requirement – and whether any affirmative findings merit this requirement – before applying it to composite wood products.

We appreciate your review of this regulation and look forward to your response on what actions you plan to take to address these concerns.

Sincerely,

Message

From: Larry Schafer [lschafer@playmakerstrategies.com]
Sent: 5/1/2017 2:28:40 PM
To: Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Question on RVO's to OMB?
Attachments: Untitled Attachment

Brittany and Mandy,

Politico is reporting that the 2018 RVO may be headed to OMB today.

Do you have a couple of minutes to chat briefly about that movement?

Thanks.

=====



Larry Schafer
Principal
Playmaker Strategies, LLC
750 Ninth St., NW, Suite 650
Washington, DC 20001
Phone: (202)997-8072
Email: Lschafer@PlaymakerStrategies.com
Www: www.playmakerstrategies.com

=====

Message

From: Matt Ogren [MOgren@insightwebpoll.com]
Sent: 5/9/2017 1:46:40 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Reminder: please share your thoughts, TradeMarks 2017

Hello Amanda Gunasekara,

I am contacting you to follow-up on our previous invitation to participate in a study that will shed light on how Washington, D.C. professionals view certain institutions operating here in DC. I recognize your time is valuable and that these invitations can get lost in the shuffle, but I believe that you will find the topic interesting and encourage you to participate in the survey.

In appreciation for your time we will send you an advance copy of the study's executive summary. Additionally, APCO is making a \$1,000 charitable contribution to each of five charities selected by individuals completing the survey.

We are only contacting a select number of individuals and hope you will take the time to share your views. The online survey is easy to complete; it will only take about 15 minutes of your time.

To complete the survey online, please click on the button below.

START NOW

Alternatively, you can copy and paste the following URL into your internet browser:

<http://www.insightwebpoll.com/association2017&p=E4754>

Rest assured, this survey is completely confidential; your name and affiliation will not be reported with the responses you provide, and we recognize that you are sharing your personal opinions and not those of any organization.

Every voice is very important. We hope you will set aside about 15 minutes to complete this online survey today, or to speak with our representative when he or she calls; we realize that your time is very valuable and sincerely appreciate you taking the time to participate in this important survey.

Should you have any questions or difficulties completing this survey, please feel free to contact me.

Thank you for your participation,

Matt Ogren
Study Director

5086 List Drive, Colorado Springs, CO 80919

[Unsubscribe](#)



FACT SHEET

1111 19th Street NW > Suite 402 > Washington, DC 20036
 t 202.872.5955 f 202.872.9354 www.aham.org

Significant New Alternatives Policy (SNAP) Refrigerant Charge Size for Refrigerators

Background

On December 20, 2011, EPA's Significant New Alternatives Policy (SNAP) program allowed the use of Isobutane (R-600a) in household refrigerators (Fed. Reg. 78832). An appliance manufacturer had petitioned EPA for this allowance. Isobutane is a flammable refrigerant, and the final rule included a use condition that limits the refrigerant charge to 57 grams (2.0 ounces) or less for each sealed refrigeration system (i.e., compressor, condenser, evaporator, and refrigerant piping). The charge size is the amount of refrigerant that is allowed in each sealed refrigerant system within a refrigerator. Generally, a refrigerator/freezer has one sealed system that cools the fresh food compartment and the freezer compartment, but it could be two systems – one for the fresh foods and one for the freezer.

The SNAP rule based the charge size amount on the Underwriters Laboratories (UL) safety standard (UL-250) for household refrigeration end-use, which limited the quantity of the refrigerant (i.e., "charge size") in a refrigerator or freezer to 57 grams. In EPA's final rule, the agency stated that they do not have sufficient information to support a charge size limit different from one based on UL 250, such as the 150-gram limit in IEC 60335-2-24. The final rule stated EPA understands that the limit in UL 250 may change in the future. If that occurs, and if the appropriate safety testing data is submitted to EPA supporting safe use of a larger charge, EPA stated it would consider modifying the use conditions.

Based on testing and lengthy analysis, on April 28, 2017, the maximum charge size allowance in the UL standard was changed following the rest of the world, which has used flammable refrigerants for decades without significant safety problems. UL 250 was redesignated as UL 60335-2-24 to be consistent with the international IEC numbering system and raised the charge size allowance from 57 grams to 150 grams in each separate refrigerant circuit. During the approval process of this update, the Consumer Product Safety Commission (CPSC) staff stated that they do not oppose the proposal to increase the maximum flammable refrigerant charge size in household refrigerators to 150 grams from 57 grams. They stated that standards in Latin America, Europe, and other countries allow household refrigerators to use up to 150 grams of flammable refrigerant.

AHAM Position

AHAM supports quickly revising the EPA SNAP allowance for Isobutane (R-600a) through a Direct Final Rule to update it to the most recent safety standard, which would mean an increase in the allowance of refrigerant quantity in a household refrigerator from 57 grams to 150 grams. This would only be a technical change. The use of HFCs as refrigerants have been banned by EPA in 2021 and manufacturers need the SNAP charge size allowance changed as soon as possible to allow for time for design and retooling.

This is supported by the April 28, 2017 update to the safety standard, during which the CPSC participated in its development and did not oppose the change. Because EPA's original SNAP listing used the then current safety standard limit of 57 grams, it should update the allowance to reflect the new, updated standard of 150 grams. The increased allowance will provide more flexibility for manufacturers to design products at a lower cost. There would be no cost impact and likely cost savings to manufacturers to update the SNAP allowance to reflect the larger charge size.

For More Information
Charlotte Skidmore
202-872-5955 ext. 328
cskidmore@aham.org

Message

From: Chuck Cunningham [chuckc@visi.net]
Sent: 5/22/2017 8:02:15 PM
To: Gunasekara, Surya [Surya@mail.house.gov]
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: CAFE Standards
Attachments: Reforming-and-Strengthening-Fuel-Economy-Standards.pdf

The attachment should fulfill your request. If you need more information, please let me know.

From: Gunasekara, Surya [mailto:Surya@mail.house.gov]
Sent: Thursday, May 18, 2017 12:11 PM
To: Chuck Cunningham
Cc: Gunasekara, Mandy
Subject: Re: CAFE Standards

Do you have a one-pager on what you want to see reformed? That would probably be more helpful.

Surya G. Gunasekara
Chief of Staff
Congressman Renacci (OH-16)

Sent from my iPhone

On May 18, 2017, at 12:08 PM, Chuck Cunningham <chuckc@visi.net> wrote:

Surya, thanks for this introduction. Great seeing you last night.

Mandy, I met Samantha when we met with General Pruitt and continue to communicate with her. I do not know and have not met Brittany Bolen.

Below are some recent articles and op-eds on fuel economy standards that should be informative and helpful:

[Automakers hope to reach US deal on 2025 vehicle emissions](#)

[Time to take fuel-efficiency mandates in for a checkup](#)

[SAFE Welcomes Review of Fuel Economy Standards, Urges Compromise Incorporating New Technologies and Business Models](#) (SAFE news release)

Make energy security top goal (*Detroit News*)

Fred Smith, retired military warn Washington about risks of foreign oil dependence (*Memphis Business Journal*)

Industry and environmentalists can both win on fuel economy. Here's how (*Forbes*)

Trump Plans to Review Fuel Economy Standards, and Maybe That's a Good Thing (*Greentech Media*)

In Michigan Visit, President Trump Reopens Review of Fuel-Economy Standards (*Car and Driver*)

Trump takes steps toward undoing Obama's auto emissions limits (*Politico*)

Chuck

Charles H. Cunningham

ChuckC@visi.net

Senior Vice President for Government Relations and External Affairs

Securing America's Future Energy (SAFE)

1111 Nineteenth Street, N.W., Suite 406

Washington, D.C. 20036-3627

(202) 461-2369

(202) 461-2379 (FAX)

----- Original message -----

From: "Gunasekara, Mandy" <Gunasekara.Mandy@epa.gov>

Date: 5/18/17 9:57 AM (GMT-05:00)

To: "Gunasekara, Surya" <Surya@mail.house.gov>

Cc: Chuck Cunningham <chuckc@visi.net>

Subject: Re: CAFE Standards

Thanks, Surya.

Chuck, our Policy Office (Samantha Dravis, Brittany Bolen) have taken the lead on Cafe issues. I'm happy to connect but can you provide a bit more specificity?

Thanks,
Mandy

Sent from my iPhone

On May 18, 2017, at 9:19 AM, Gunasekara, Surya <Surya@mail.house.gov> wrote:

Hey Chuck,

Good seeing you last night.

As promised, I have connected you with my wife Mandy. She can direct you to the appropriate contact depending on your specific requests.

Surya

Surya G. Gunasekara
Chief of Staff
Congressman Jim Renacci (16th-OH)
328 Cannon House Office Building
Washington, DC 20515
O: (202) 225-3876
F: (202) 225-3059

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<image005.jpg>

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Message

From: Spooner, David [David.Spooner@btlaw.com]
Sent: 5/17/2017 4:34:05 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Schwab, Justin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eed0f609c0944cc2bbdb05df3a10aadb-Schwab, Jus]; Ayoob, Edward [Edward.Ayoob@btlaw.com]
Subject: RE: MACT Standard for Ceramic Tile

Mandy,

I'm know you're buried (and totally don't want to badger!), but am following up on the below. Any way you all would have time for a brief meeting, perhaps any time next Wednesday afternoon through the following week? Promise we'll keep it brief. Thanks a ton. Am actually leaving Friday for the tile manufacturers association's annual meeting.

Thank you!

David Spooner | Partner

Firm Bio: <http://www.btlaw.com/david-m-spooner/>

Barnes & Thornburg LLP

1717 Pennsylvania Avenue NW, Suite 500, Washington, DC 20006-4623

Direct: (202) 371-6377 | Mobile: (202) 510-3542 | Fax: (202) 289-1330



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From: Spooner, David
Sent: Thursday, May 11, 2017 12:47 PM
To: 'Gunasekara, Mandy'
Cc: 'Schwab, Justin'; Ayoob, Edward
Subject: RE: MACT Standard for Ceramic Tile

Mandy,

Don't mean to badger, but am following up on the below. We're eager to have an initial discussion about the agency's October 2015 final NESHAP for ceramic tile (which, remarkably, doesn't regulate a single tile producer...).

I realized this afternoon, as I was preparing to ping you all, that Valerie (presumably your all's scheduling guru?) wasn't cc'ed on the below, which may explain why we didn't close the loop.

For what it's worth, we could do a call any time tomorrow or next week.

Thank you, Mandy!

David Spooner | Partner

Firm Bio: <http://www.btlaw.com/david-m-spooner/>

Barnes & Thornburg LLP

1717 Pennsylvania Avenue NW, Suite 500, Washington, DC 20006-4623
Direct: (202) 371-6377 | Mobile: (202) 510-3542 | Fax: (202) 289-1330



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-----Original Message-----

From: Spooner, David
Sent: Wednesday, May 03, 2017 10:59 PM
To: 'Gunasekara, Mandy'
Cc: Schwab, Justin; Ayoob, Edward
Subject: RE: MACT Standard for Ceramic Tile

Thank you, Mandy!

Valerie, as soon as I sent the below, I realized that I have to go on work travel from Monday late afternoon through Wednesday night next week. Thursday and Friday are totally clear -- or Monday until about 2:30.

Thanks a ton.

-----Original Message-----

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Wednesday, May 03, 2017 10:41 PM
To: Spooner, David
Cc: Schwab, Justin; Ayoob, Edward
Subject: Re: MACT Standard for Ceramic Tile

Yes- happy to meet.

Valerie, can you please find us a time and place that work for meeting next week? Please include Justin on the invite.

Thank you,
Mandy

Sent from my iPhone

> On May 3, 2017, at 6:45 PM, Spooner, David <David.Spooner@btlaw.com> wrote:

>

> Mandy and Justin,

>

> Barnes & Thornburg works with the Tile Council of North America, the trade association for the ceramic tile industry. The Tile Council and its member companies are in the midst of litigation, challenging the agency's October 2015 final NESHAP for ceramic tile. (Please see attached).

>

> The rule, remarkably, doesn't regulate a single U.S. ceramic tile producer. See Tables 8 and 9 on page 65512 of the attached final rule, in which the EPA estimates that the rule will yield no environmental benefits with respect to the ceramic tile industry. In the industry's humble opinion, the attached was a good example of unnecessary environmental regulation in the prior Administration -- a rule with no environmental benefits.

>

> Would you have a few minutes to discuss the attached on Friday or next week? We'll, of course, provide more information, as appropriate, but want to make sure that you're aware of the issue.

>

> Thank you.

>

>

>

> David Spooner | Partner

>

> Firm Bio: <http://www.btlaw.com/david-m-spooner/>

> Barnes & Thornburg LLP

>

> 1717 Pennsylvania Avenue NW, Suite 500, Washington, DC 20006-4623

>

> Direct: (202) 371-6377 | Mobile: (202) 510-3542 | Fax: (202) 289-1330

>

> [<http://btdirectory.btlaw.com/images/SignatureLogo2.gif>]

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> <image001.gif>

> <Tile Council, EPA, Final MACT Rule, Oct 26 '15.pdf>

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Message

From: McGuffey, Carroll Wade [mack.mcguffey@troutmansanders.com]
Sent: 5/1/2017 9:54:46 PM
To: Dravis, Samantha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ece53f0610054e669d9dffe0b3a842df-Dravis, Sam]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]
CC: Kelly, Kerry [KKelly5@wm.com]
Subject: RE: Follow Up
Attachments: Comments on Evaluation of Existing Regulations per EO 13777.pdf

Dear Samantha, Mandy, and Brittany,

Thank you again for your continued interest in our concerns regarding the Section 111 air rules for MSW landfills. As indicated previously, we are planning to raise our concerns in comments on EPA's evaluation of existing regulations per executive order 13777. We plan to submit the comments to the docket by the deadline of May 15th, but we also thought you all might appreciate receiving a copy a bit earlier, given the time pressure I'm sure you are under with regard to these regulatory reform efforts. If you have questions, please don't hesitate to contact us at your convenience.

Mack McGuffey

TROUTMAN SANDERS

Direct: 404.885.3698 | Mobile: 770.402.0727

mack.mcguffey@troutmansanders.com

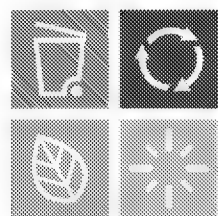
Mack McGuffey

TROUTMAN SANDERS

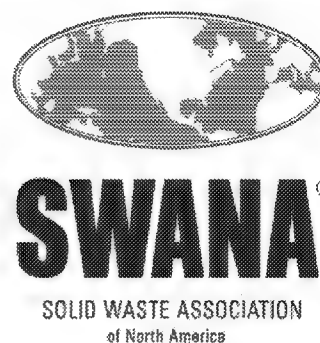
Direct: 404.885.3698 | Mobile: 770.402.0727

mack.mcguffey@troutmansanders.com

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May 1, 2017

Transmitted electronically: www.regulations.gov
Dravis.samantha@epa.gov

Ms. Samantha K. Dravis, Regulatory Reform Officer
Associate Administrator for Policy
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, NW
Mail Code 1804-A
Washington, DC 20460

Comments to Docket ID No. EPA-HQ-OA-2017-0190, Evaluation of Existing Regulations

Dear Ms. Dravis:

The National Waste & Recycling Association ("NWRA"), the Solid Waste Association of North America ("SWANA"), Waste Management, Inc. ("WM"), and Republic Services (collectively, the "Solid Waste Working Group" or "Working Group") appreciate the opportunity to provide input to the Agency on "Evaluation of Existing Regulations," 82 Fed. Reg. 17793 (April 13, 2017) to identify regulations that are appropriate for repeal, replacement or modification under Executive Order 13777, "Enforcing the Regulatory Reform Agenda."

In particular, we ask EPA to review the New Source Performance Standards (“NSPS”) and Emission Guidelines for Municipal Solid Waste (“MSW”) Landfills (the “Landfill Air Rules”). The United States Environmental Protection Agency (“EPA” or the “Agency”) has adopted two versions of those two rules—one in 1996 (“Subparts WWW and Cc” or the “1996 Rules”)¹ and one in 2016 (“Subparts XXX and Cc” or the “2016 Rules”).² **Based on our analysis of the rules and evaluation criteria, we strongly urge the Agency to administratively stay the 2016 Rules, and undertake rulemaking actions to address problematic provisions and evaluate cost-effective reforms.** These comments are consistent with our petition for Rulemaking, Reconsideration, and Administrative Stay of the 2016 Rules, submitted to EPA on October 27, 2016 (the “Administrative Petition”), which remains pending.³ In addition, we ask EPA to review the 1996 Rules alongside the review of the 2016 Rules that is now required by executive order. Only through reviewing all of the Landfill Air Rules together will EPA and the industry be able to craft a reasonable set of regulations to protect human health and the environment while minimizing regulatory burden and cost.

The Solid Waste Working Group represents a broad base of the waste management sector, with NWRA as the leading trade association, and SWANA as the leading professional association for public and private waste management officials in the sector. WM and Republic are leading waste service providers, with over 400 active MSW landfills between them, many of which have been subject to the Landfill Air Rules, as well as the *National Emission Standards for Hazardous Air Pollutants* at 40 C.F.R. Part 63, Subpart AAAA (the “Landfill NESHAP”). The members of the Working Group have gained over two decades of valuable insight and experience in complying with those rules. Further, the members of the Working Group have actively engaged with EPA in the implementation of the rules, working closely with EPA’s Office of Air Quality, Planning and Standards personnel for over a decade to accomplish necessary revisions and clarifications to the rules. The members of the Working Group commented extensively on rulemaking proposals published in 2002 and 2006, and more recently in 2014 and 2015.⁴

¹ 40 C.F.R. Part 60, Subparts WWW & Cc. *See also* 40 C.F.R. Part 62, Subpart GGG (EPA’s Federal Plan implementing the MSW Landfill emission guidelines).

² 40 C.F.R. Part 60 Subparts XXX & Cc; *see also* “Standards of Performance for Municipal Solid Waste Landfills,” 81 Fed. Reg. 59332-59384 (Aug. 29, 2016); and “Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills,” 81 Fed. Reg. 59276-59330 (Aug. 29, 2016).

³ Petition for Rulemaking, Reconsideration, and Administrative Stay (Oct. 27, 2016) (filed by NWRA, SWANA, Republic Services, WM, and Waste Management Disposal Services of Pennsylvania, Inc.).

⁴ *See* NWRA & SWANA Comments on 2014 Proposal, EPA-HQ-OAR-2003-0215-0108 & EPA-HQ-OAR-2014-0451-0062 and Comments on 2015 Supplemental Proposal, EPA-HQ-OAR-2003-0215-0196 & EPA-HQ-OAR-2014-0451-0186; Republic Services, Comments on Proposed Standards of Performance for Municipal Solid Waste Landfills, EPA-HQ-OAR-2003-0215-0099, Comments on Supplemental Proposal, EPA-HQ-OAR-2003-0215-0202, Comments on the Advanced Notice of Proposed Ruling Making for Emission Guidelines, EPA-HQ-OAR-2014-0451-0061, and Comments on Proposed Rules; Emission Guidelines, EPA-HQ-OAR-2014-0451-0176; Waste Management, Inc., Comments on 2014 Proposal, EPA-HQ-OAR-2003-0215-0100 and Comments on 2015 Supplemental Proposal, EPA-HQ-OAR-2003-0215-0198 & EPA-HQ-OAR-2014-0451-0192. Additionally, members of the Working Group provided supplemental information at EPA-HQ-OAR-2003-0215-0003, EPA-HQ-OAR-2003-0215-0007, EPA-HQ-OAR-2003-0215-0053, EPA-HQ-OAR-2003-0215-0055, EPA-HQ-OAR-2003-0215-0057, & EPA-HQ-OAR-2003-0215-0058.

Although the Working Group supports EPA's regulatory reform efforts, we are not seeking a complete repeal of all regulations governing the control and management of MSW landfill gas. On the contrary, the members of the Working Group view proper landfill gas management as a fundamental requirement of providing competent and reliable waste management services and have a strong commitment to environmental stewardship and full regulatory compliance, as illustrated by the success of the industry in reducing landfill gas emissions substantially and continuously for many decades. In short, we recognize the necessity of regulation, but support EPA's effort to ensure all regulations are, indeed, necessary.

We believe that the Landfill Air Rules present significant opportunities for regulatory reform, consistent with EPA's request for information and Executive Order 13777, because they are confusing, inconsistent, unnecessarily burdensome, impose costs far greater than benefits, and are based on Executive actions that have been repealed. Although EPA determined that the best system of emission reduction ("BSER") underlying the rules had not changed, EPA nevertheless inappropriately finalized more stringent compliance obligations for both new and existing sources in accordance with President Obama's now-rescinded Climate Action Plan and strategy to Reduce Methane Emissions.⁵ Further, EPA justified the new, more stringent standards using the Social Cost of Carbon and Methane, which no longer represents an authorized policy for regulatory decision-making. The 2016 Rules also fail to include reasonable streamlining provisions that the industry and EPA have worked cooperatively over many years to address a variety of concerns identified in the 1996 Rules.

For these reasons, as further discussed below, we believe that the best means of remedying the significant flaws and reforming the Landfill Air Rules is an immediate administrative stay of the 2016 Rules, and an Agency commitment to a new rulemaking process. We look forward to working with EPA in developing the revisions needed to ensure the regulations governing the control of landfill gas are appropriate, regular, and effective.

A. The 2016 Rules Derive From and Implement Executive Orders and Presidential Directives That Have Been Rescinded.

The 2016 Rules—Subparts XXX and Cf—must be repealed, replaced, or modified because the rules are based in substantial part on three Obama-era executive actions that have been rescinded by President Trump, including: (1) President Obama's Climate Action Plan,⁶ (2) President Obama's Methane Strategy,⁷ and (3) the Social Cost of Methane.⁸

⁵ Climate Action Plan-Strategy to Reduce Methane Emissions, March 2014, at 5.

⁶ "The President's Climate Action Plan," Executive Office of the President, June 2013 (<https://www.whitehouse.gov/sites/default/files/image/president27climateactionplan.pdf>).

⁷ "Climate Action Plan Strategy to Reduce Methane," Executive Office of the President, March 2014 (https://www.whitehouse.gov/sites/default/files/strategy_to_reduce_methane_emissions_2014-03-28_final.pdf).

⁸ Social Cost of CH₄, Marten et al. (2014).

When finalizing the 2016 Rules, EPA stated that the rules are “consistent with the President’s 2013 Climate Action Plan” and “the President’s Methane Strategy” and that the rules are “an important element of the United States’ work to reduce emissions that are contributing to climate change.”⁹ As discussed in greater detail below, EPA was not required to modify or revise the Landfill Air Rules, but did so anyway in order to advance President Obama’s climate policies. Furthermore, in justifying the costs of EPA’s burdensome and unnecessary revisions to the Landfill Air Rules, EPA quantified the supposed benefits of its 2016 Rules by relying on the Social Cost of Methane, without which the Agency could not have justified the costs of the rules.

On March 28, 2017, President Trump signed the “Presidential Executive Order on Promoting Energy Independence and Economic Growth,” E.O. 13783. Executive Order 13783 revokes several earlier climate-related Executive actions, including the Climate Action Plan and the Methane Strategy.¹⁰ Furthermore, the Executive Order withdraws the use of the Social Cost of Methane for regulatory decision making and declares that the framework “is no longer representative of government policy.”¹¹ Because the Executive Order has revoked the climate-related policies that serve as the basis for EPA’s 2016 Rules, EPA should immediately suspend the rules and promptly convene a proceeding to review and revise them.

B. The 2016 Rules Are Unnecessary and Ineffective.

The 2016 Rules are unnecessary or ineffective regulations that are appropriate candidates for repeal, replacement, or modification because: (1) they increased the stringency of existing Clean Air Act (“CAA”) Section 111 standards governing MSW landfills based on the directives contained in President Obama’s now-rescinded Climate Action Plan and Methane Strategy, rather than on any statutory mandate to do so; and (2) many aspects of the 2016 Rules have added significant compliance burdens to the existing standards, creating inconsistent, inappropriate, or unworkable conditions for regulated MSW landfills.

1. The 2016 Rules Unnecessarily Reduced the NMOC Emission Threshold.

Since 1996, MSW landfills have been subject to standards promulgated under Sections 111(b) and 111(d) of the CAA: the Standards of Performance for Municipal Solid Waste Landfills set forth at 40 C.F.R. Part 60, Subpart WWW governing new sources; and the Emission Guidelines and Compliance Times for Existing Municipal Solid Waste Landfills set forth at 40 C.F.R. Part 60, Subpart Cc governing existing sources. The primary compliance mechanism under the 1996 Rules was the installation and operation of a gas collection and control system (“GCCS”) for landfills that meet certain size and non-methane organic compound (“NMOC”)

⁹ 81 Fed. Reg. at 59333; 81 Fed. Reg. at 59277.

¹⁰ E.O. 13783, Section 3.

¹¹ *Id.* at Section 5.

emission rate thresholds. In 2003, EPA promulgated the Landfill NESHAP under Section 112 of the CAA, which references and requires compliance with the substantive requirements of the 1996 Rules (Subparts WWW and Cc). Through the obligation to install and maintain a GCCS, the 1996 Rules and the Landfill NESHAP have been largely effective at controlling emissions from MSW landfills, reducing emissions substantially and continuously for two decades.

EPA promulgated Subpart XXX in 2016 pursuant to CAA Section 111(b), governing new sources, which requires EPA to review each NSPS once every eight years.¹² After concluding such review, EPA is not required to revise an NSPS unless the Agency determines that it is appropriate to do so. Even as it adopted the new 2016 Rules, EPA acknowledged that the 1996 Rules already effectively controlled landfill gas emissions. For example, in the preamble to EPA's 2014 proposal, EPA stated that a well-designed and well-maintained GCCS remains BSER for MSW landfills and observed that the obligations in the 1996 Rules concerning operation of a GCCS "continue to ***ensure that the collection system efficiently collects landfill gas.***"¹³ EPA further noted that the GCCS design and operation standards in the 1996 Rules remain "the best format" for regulating air emissions from MSW landfills.¹⁴ Despite conceding that the regulatory framework in the 1996 Rules continues to be appropriate and that the GCCS requirement remains BSER for the landfill sector, EPA nevertheless decided to promulgate the 2016 Rules, reducing the NMOC emission threshold for installing a GCCS from 50 Mg/year to 34 Mg/year. EPA cited President Obama's Climate Action Plan and Methane Reduction Strategy as an important impetus for these reductions.

Likewise, with the promulgation of Subpart Cf, EPA determined to increase the stringency of requirements governing existing MSW landfills under Section 111(d) of the Clean Air Act, despite any authority in that section to do so, and despite the Agency's determination that the 1996 Rules continue to reflect BSER. Unlike CAA Section 111(b) governing new sources, CAA Section 111(d) does not permit EPA to review and revise Emission Guidelines applicable to existing sources.¹⁵ In promulgating Subpart Cf, EPA claimed that the Agency has "discretion to [conduct a review of Emission Guidelines] when circumstances indicate that it is appropriate."¹⁶ Until the promulgation of the 2016 Rules, however, EPA had never before revised and tightened already existing final Emission Guidelines published under CAA Section 111(d). As a direct result of EPA's unprecedented action, existing sources with emissions below the 50 Mg/yr threshold may now be required to add controls that they had not planned for and that would not have been required under the 1996 Rules.

EPA justified the costs of installing a GCCS at a lower NMOC threshold on the basis that "substantial reduction in emissions of landfill gas and its constituent components, ***including***

¹² 42 U.S.C. § 7411(b).

¹³ *Standards of Performance for Municipal Solid Waste Landfills*; Proposed Rule, 79 Fed. Reg. 41796, 41802 (July 17, 2014).

¹⁴ *Id.* at 41802.

¹⁵ Compare 42 U.S.C. § 7411(b) and 7411(d).

¹⁶ 81 Fed. Reg. at 59277.

methane, will result.”¹⁷ According to EPA, further reductions of methane emissions (which is not the regulated pollutant under the rules) is important because “MSW landfills continue [] to be the third-largest source of methane emissions in the U.S.,” which represents “1.9 percent of total U.S. GHG emissions in carbon dioxide equivalent.”¹⁸ It is “[f]or these reasons . . . EPA is finalizing changes to the Emission Guidelines.”¹⁹ If the Agency’s motivations were in doubt, the next five pages of the Subpart Cf Preamble discuss climate impacts associated with methane emissions, while the public health effects associated with NMOC emissions – the regulated pollutant under these rules – are limited to a single paragraph of discussion.²⁰

Finally, after essentially conceding that the 2016 Rules were adopted only to advance the Climate Action Plan and Methane Reduction Strategy, EPA justified the costs associated with the NMOC emission threshold primarily by relying on the now-rescinded Social Cost of Methane, which purports to quantify the climate-related benefits of methane reduction. This controversial and unproven metric, derived from the Agency’s Social Cost of Carbon framework, far overstated the benefits of reducing the NMOC emission rate trigger for the GCCS requirement. As discussed in greater detail in Section E, below, EPA cannot justify the costs of the 2016 Rules without the Social Cost of Methane, and should therefore restore the NMOC emission threshold to 50 Mg/yr.

2. The Landfill Air Rules Are Ineffective.

In its preamble to the final 2016 Rules, EPA noted that one basis for promulgating the rules was the need for clarification of certain aspects of the 1996 Rules.²¹ Indeed, over the past decade, many stakeholders, including members of the Working Group, have worked with EPA to identify necessary revisions and clarifications to the 1996 Rules.²² With the proposed issuance of revised Landfill Air Rules, we were hopeful that EPA would improve the rules in a manner that provides clear and achievable compliance expectations for the regulated community. Instead, some of the provisions in the 2016 Rules actually exacerbate or simply fail to address many of the problems that regulated landfills faced under the 1996 Rules. A comprehensive discussion of some of the major problems with new 2016 Rules can be found in the Working Group’s Administrative Petition.

Rather than highlight the many issues in the rules that are in dire need of correction, the remainder of this section focuses on provisions in the 2016 Rules that relate to approval of GCCS design plans, wellhead monitoring parameters, and corrective action procedures. These

¹⁷ *Id.* at 59278.

¹⁸ *Id.* at 59281.

¹⁹ 81 Fed. Reg. 59281.

²⁰ *See id.* at 59282-59287.

²¹ 81 Fed. Reg. at 59333.

²² For a discussion of the numerous issues that stakeholders worked to address with EPA since the issuance of the 1996 Rules, we refer EPA to the submissions referenced in footnotes 3 and 4 above, and incorporated fully by reference into this letter.

issues are among the most significant problems that stakeholders have identified for EPA over the course of two decades of implementing the 1996 Rules and demonstrate that the 2016 Rules are ineffective at addressing these issues.

a. **Gas Collection and Control System (GCCS) Design Plan**

Given the site-specific nature of landfills, each owner/operator is required to prepare a GCCS design plan that applies the collection and control requirements to the unique circumstances presented at each landfill. A GCCS design plan, prepared with the assistance of a licensed, third-party professional engineer, essentially operates as a landfill's user manual, specifying how the GCCS should operate, and is therefore the primary means for complying with the Landfill Air Rules. Under the 1996 Rules, landfills experienced a very low rate of agency review and approval of GCCS design plans, including alternatives to the design standards and operating parameters, leaving many facilities without any certainty as to whether the GCCS design plan requirements were met or whether their alternatives are appropriate. Presumably to correct these issues, EPA solicited comments on streamlining the GCCS design plan approval process. Rather than make improvements to the rules, however, the 2016 Rules ***have significantly worsened the compliance uncertainty associated with GCCS design plan review and approval.***

For example, the 2016 Rules require that each GCCS design plan be approved, but leaves the decision to review a submitted design plan entirely to the discretion of EPA or the delegated state authority.²³ EPA has thus created a system by which a landfill owner/operator is required to submit a GCCS design plan for agency approval, but neither EPA nor its state or local counterparts are held accountable for actually reviewing and approving, or disapproving, those plans.

This uncertainty is compounded by the failure of the 2016 Rules to provide clarity on whether landfills must proceed with installation of a GCCS without agency approval. For example, the rules state that without having obtained approval, a landfill *may* continue with implementation of the design plan, recognizing that they would “be proceeding at their own risk.”²⁴ This permissive and unprecedented language fails to inform the regulated entity what it should or must do when the relevant agency has not provided approval, and is directly at odds with other provisions in the rules that expressly require actions to be taken in accordance with an approved design plan.²⁵

Further, the 2016 Rules do not suspend a landfill's compliance obligations pending design plan approval, including the obligation to seek applicable permits, award contracts, and

²³ See 40 C.F.R. §§ 60.767(c)(5)-(6) & 60.38f(d)(5)-(6).

²⁴ 40 C.F.R. § 60.767(c)(6); 40 C.F.R. § 60.38f(d)(5) and (6).

²⁵ 40 C.F.R. § 60.765(b) (“each owner or operator of a controlled landfill must place each well or design component as specified in the *approved* design plan”).

install and start up a GCCS within 30 months of the regulatory trigger. The net result of the revised design plan approval process is a Kafkaesque choice for landfill owners/operators: face potential enforcement risk for missing the 30-month compliance deadline in the rules, or face potential financial *and* enforcement risk for installing and operating a multi-million-dollar gas collection system in accordance with a design plan that may later be disapproved.

The 2016 Rules create even further confusion by concluding the design plan approval process with the following statement:

In the event that the design plan is required to be modified to obtain approval, the owner or operator must take any steps necessary to conform any prior actions to the approved design plan and any failure to do so could result in an enforcement action.²⁶

This unintelligible language does not explain how “prior actions” can be conformed to a newly imposed requirement and does not state whether the resulting enforcement risk is retroactive, prospective, or both. Furthermore, it makes clear that EPA did not consider the significant financial risks associated with installing a multi-million dollar gas collection system pursuant to a plan that may later be deemed insufficient. This risk is particularly acute for landfills that need alternative designs to operate a GCCS, given that alternatives must be approved by the relevant agency.

Thus, the 2016 Rules fail to provide the essential regulatory element of fair and timely notice of compliance obligations and therefore must be revised to provide certainty to regulated landfills. The Working Group suggests that EPA eliminate the need for agency review and approval of GCCS plans, which is a system that has simply not worked to date. Instead, we recommend that delegated authorities should be allowed to rely upon a licensed, third-party professional engineer’s certification of design plans and revisions in lieu of an agency review and approval process, with certified plans maintained onsite for inspection and/or submittal to the implementing agency, consistent with other standards adopted by EPA.²⁷ In the event EPA continues to believe that design plan review and approval is necessary, we ask the Agency to consider a defined timeframe for such review and a deemed approval in the event that the reviewing agency fails to respond in a timely manner.

b. Temperature Well-Head Parameter

The 1996 Rules require landfills to conduct regular monitoring to verify that each GCCS wellhead meets certain operating parameters, including limits for pressure, temperature, and either oxygen or nitrogen. In working with EPA on improvements to the 1996 Rules, members

²⁶ 40 C.F.R. § 60.767(c)(5) and 40 C.F.R § 38f(d)(5).

²⁷ The Working Group identified 62 other CAA rules with similar provisions in the supplemental comments cited in footnote 4, above.

of the Working Group expressed their concerns that the temperature and oxygen/nitrogen wellhead monitoring parameters are counterproductive to optimal operation of a GCCS. In response to these concerns, EPA proposed to eliminate both the oxygen/nitrogen parameter and the temperature parameter. We submitted comments supporting EPA's proposal because it recognized that the parameters are not good indicators of a well-functioning GCCS. Unfortunately, EPA retained the temperature parameter in the 2016 Rules and only eliminated the oxygen/nitrogen parameter.

Although the Working Group appreciates EPA's decision to remove from the 2016 Rules the oxygen/nitrogen parameter, nearly two decades of experience implementing the rules has demonstrated that the temperature parameter is a poor indicator of landfill fires or inhibited waste decomposition. To comply with this arbitrary temperature parameter, sites must often reduce landfill gas flow to the affected well, thereby decreasing system performance and ***potentially increasing emissions***. Furthermore, conforming operations to satisfy the temperature parameter imposes significant administrative burdens on both regulatory agencies and the regulated community. The Preambles to the 2016 Rules claim that EPA retained the temperature parameter because of concerns raised by commenters about landfill fires. Wellhead temperature values, however, are not an indicator of GCCS performance or landfill fires. Given that wellhead temperature is not a good indicator of system performance, EPA should eliminate it from the Landfill Air Rules.

c. Corrective Action Procedures

The 1996 Rules require landfills to take corrective actions when exceedances of wellhead operating parameters are discovered. Under those rules, corrective actions must be completed within 15 days, and an alternative timeline prepared if that schedule cannot be met. Under the 1996 Rules, a landfill is not required to obtain agency approval for alternative timelines that do not exceed 120 days. Nonetheless, inconsistent implementation of these requirements by states and EPA regions led to confusion and unanswered alternative timeline requests. Despite EPA's goal to clarify these procedures, the corrective action procedures in the 2016 Rules, much like the design plan procedures discussed above, have become more complicated and leave regulated landfills subject to increased compliance burden and even greater uncertainty.

The corrective action schedule in the 2016 Rules is far more complex, requiring a root cause analysis and submission of a corrective action plan to the relevant agency for review and approval if certain stringent timeframes cannot be met. For example, under the 2016 Rules, a corrective action must be taken within five days of an exceedance of a wellhead parameter. If a corrective action cannot be completed within 15 calendar days of the first measured exceedance, the owner/operator is required to "conduct a root cause analysis and correct the exceedance as soon as practicable, but no later than 60 days after" the exceedance was

measured.²⁸ For any corrective action that is not completed within 60 days, the owner/operator must notify EPA “as soon as practicable but no later than 75 days” after measuring the exceedance.²⁹ If the owner/operator expects the corrective action to take longer than 120 days to complete, the owner/operator must submit to EPA all of the following: (1) the root cause analysis; (2) the corrective action analysis; and (3) a corresponding implementation timeline.³⁰ These materials must be submitted “as soon as practicable, but not later than 75 days after the first” measured exceedance.³¹ The Administrator “must approve the plan for corrective action and the corresponding timeline.”³² These procedures are highly complicated, overly burdensome, and like the design plan procedures, do not require agencies to respond to such submittals.

Because these new procedures significantly increase administrative burdens for both affected facilities and agencies, EPA must simplify the corrective action procedures in the Landfill Air Rules. The Working Group suggests that EPA eliminate the approval process for alternative corrective action procedures and timeframes altogether. This approach would be consistent with 40 C.F.R. Part 60, Subpart Ja (NSPS for petroleum refineries), which obligates sources to conduct root cause analyses but does not require agency approval of corrective actions.

C. The 2016 Rules Create a Serious Inconsistency and Interfere with Regulatory Reform Initiatives and Policies.

In promulgating the 2016 Rules without terminating the applicability of the 1996 Rules, the Agency has created an unintelligible web of regulation that now imposes two inconsistent standards on every landfill. In addition, the 2016 Rules ignore efforts made over many years by EPA and the solid waste industry to streamline the 1996 Rules, and instead render the rules more stringent based solely on the now-rescinded Climate Action Plan and Methane Reduction Strategy. These concerns likewise justify a full review of the Landfill Air Rules under Executive Order 13777.

1. The Landfill Air Rules Impose Inconsistent Requirements on All Landfills.

In the 2016 Rules, EPA adopted applicability provisions that fail to consider the applicability provisions of the 1996 Rules. EPA also failed to consider the Landfill NESHAP, which requires compliance with either Subparts WWW or Cc of the 1996 Rules. In its rule preamble, EPA acknowledged that the “updates” and “revisions” that it intended to make could have been adopted within the existing Subparts WWW and Cc by updating and revising those

²⁸ 40 C.F.R. § 60.765(a)(3)(i) & (5)(i) & 40 C.F.R. § 60.36f(a)(3)(i) & (5)(i).

²⁹ 40 C.F.R. § 60.767(j)(2) & 40 C.F.R. § 60.38f(k)(2).

³⁰ 40 C.F.R. § 60.765(a)(3)(iii) & (5)(iii) & 40 C.F.R. § 60.36f(a)(3)(iii) & (5)(iii).

³¹ 40 C.F.R. § 60.767(j)(1) & 40 C.F.R. § 60.38f(k)(1).

³² *Id.*

subparts.³³ Instead, EPA forged a more complicated path by promulgating two entirely new subparts—Subparts XXX and Cf. Thus, the applicability provisions for all five rules (the 1996 and 2016 versions of the NSPS and EG, plus the landfill NESHAP) are now codified as follows:

- **Subpart Cc:** landfills constructed / modified “before May 30, 1991”³⁴
- **Subpart WWW:** landfills constructed / modified “on or after May 30, 1991”³⁵
- **Subpart Cf:** landfills constructed / modified “on or before July 17, 2014”³⁶
- **Subpart XXX:** landfills constructed / modified “after July 17, 2014”³⁷
- **Subpart AAAA:** landfills that are major sources or area sources meeting certain design capacity thresholds must comply with WWW or Cc³⁸

Because of these overlapping applicability provisions, every single landfill in the country will necessarily meet the applicability criteria of two inconsistent subparts—one from 1996, and one from 2016—as illustrated in the table provided below:

Landfills that were last constructed / modified ...	Emission Guidelines for 111(d) “Existing Sources”		NSPS for 111(b) “New Sources”	
	Cc (1996)	Cf (2016)	WWW (1996)	XXX (2016)
... before May 30, 1991	✗	✗		
... on or between May 30, 1991 & July 17, 2014		✗	✗	
... after July 17, 2014			✗	✗

This overlapping applicability is unreasonable because it would require landfills to simultaneously comply with different and overlapping provisions from both the 1996 and 2016 Rules. In doing so, EPA is forcing landfills to meet all provisions of the 2016 Rules without allowing landfills to benefit from the regulatory provisions that EPA intended to update and streamline, since the 1996 Rules still apply as originally adopted. As just one example, EPA eliminated the oxygen parameter as a basis for requiring corrective action in the 2016 Rules, but the 1996 Rules continue to require all landfills to take corrective action for any oxygen exceedances.

³³ See 81 Fed. Reg. at 59333, FN 3.

³⁴ 40 C.F.R. § 60.32c.

³⁵ 40 C.F.R. § 60.750.

³⁶ 40 C.F.R. § 60.31f.

³⁷ 40 C.F.R. § 60.760.

³⁸ 40 C.F.R. §§ 63.1935; 63.1955.

These overlapping applicability provisions also contravene the CAA because they have the effect of simultaneously regulating most landfills—those last modified between 1991 and 2014—as both “new” landfills subject to an NSPS and “existing” landfills subject to an emission guideline. That result is not only logically inconsistent, but prohibited by the CAA, which defines the two terms “new source” and “existing source” in mutually exclusive fashion³⁹ and establishes separate programs for “new” and “existing” sources (Section 111(b) for new sources, and Section 111(d) for existing sources).

EPA’s own statements confirm that the Agency did not intend for landfills to comply with both the 1996 Rules and 2016 Rules simultaneously. The most obvious indication of EPA’s intent is the reference to the 2016 Rules as a “revision,” “update,” or “changes” to the 1996 Rules.⁴⁰ However, EPA’s failure to enact appropriate applicability provisions in the 2016 Rules renders them inconsistent with the 1996 Rules that still apply. Landfills are thus left with a set of regulations unlike any EPA has ever imposed on any industry. All of the other NSPS revisions that EPA has ever adopted make clear that only one NSPS subpart should apply at a time (and EPA has never before revised an emission guideline). For example, when EPA revised the standard for stationary combustion turbines by adopting a new Subpart KKKK, EPA confirmed that sources subject to that new subpart would be “exempt” from the provisions of the pre-existing requirements of Subpart GG.⁴¹ Similarly, after EPA adopted a new standard in Subpart Da for fossil fuel-fired steam generators, EPA revised the old Subpart D to make clear that any facility subject to the new standard “is not subject” to the old standard.⁴² Many other subparts contain language of similar effect to avoid the overlap of pre-existing and newly revised standards.⁴³

Due to the serious regulatory inconsistencies that EPA created in 2016 when it adopted different requirements in new Subparts XXX and Cc without terminating the applicability of the 1996 Rules, the 2016 Rules easily qualify as rules that contain severe inconsistencies, which must be reviewed under Executive Order 13777.

2. The Landfill Air Rules Interfere with Decade-Long Efforts to Reform the MSW Landfill NSPS and Emission Guidelines.

Executive Order 13777 also requires the review of rules that “otherwise interfere with regulatory reform initiatives and policies.” The 2016 Rules meet that criterion because they interfere with and ignore numerous streamlining provisions that EPA and the landfill industry

³⁹ The CAA defines “existing source” as “any stationary source other than a new source.” 42 U.S.C. § 7411(a)(6).

⁴⁰ See e.g., 81 Fed. Reg. at 59276 (“Based on this review, the EPA has determined that it is appropriate to revise the Emission Guidelines.”).

⁴¹ 40 C.F.R. § 60.4305 (“Stationary combustion turbines regulated under this subpart [KKKK] are exempt from the requirements of subpart GG of this part.”).

⁴² 40 C.F.R. § 60.40 (“Any facility subject to . . . subpart Da . . . of this part is not subject to this subpart.”).

⁴³ See, e.g., 40 C.F.R. Part 60, Subparts Ea, Eb, K, Ka, Kb, AA, AAa, J, Ja, VV, VVa, GGG, GGGa, AAAA, BBBB, CCCC, DDDD, EEEE, & FFFF.

had developed over many years. Efforts at streamlining the 1996 Rules began in 2002—fifteen years ago—based on a shared concern and understanding that the 1996 Rules were unnecessarily burdensome in several ways. For example, at various points in the rule development process, both EPA and the industry agreed that the corrective action requirements for any exceedances of an oxygen or temperature wellhead parameter were not only unnecessary, but potentially counter-productive to effective landfill gas control.

However, in the 2016 Rules, EPA ignored many of the streamlining provisions it had previously considered and evaluated with input from the solid waste sector, and instead focused primarily on implementing President Obama’s Climate Action Plan and Methane Reduction Strategy. As a result, the 2016 Rules became more onerous than the 1996 Rules, not less. In addition, it appears many of the streamlining provisions were dropped or significantly altered at the last moment in the rulemaking process, long after they had been proposed and supported by many favorable comments. For example, even though EPA had proposed to eliminate from the 1996 Rules the requirement for corrective action following exceedances of an arbitrary temperature parameter, the final 2016 Rules retained that requirement.

Since the 2016 Rules failed to include important revisions needed to correct various flaws in the 1996 Rules, the 2016 Rules interfered with the efforts at reforming those rules. Therefore, the 2016 Rules must be reviewed under Executive Order 13777, and EPA should initiate a new review of the 1996 Rules to make the reforms needed to minimize the regulatory burdens they impose.

D. The Data Underpinning the Reduced NMOC Threshold, the Wellhead Temperature Operating Standard, and the Tier 4 Wind Speed Restrictions do not meet Federal Requirements for Transparency or Reproducibility.

1. NMOC Threshold

EPA provided no technical or scientific justification for finalizing the reduced NMOC regulatory standard of 34 Mg/year in the 2016 Rules. EPA provided no substantiation that the original requirement to install landfill gas controls where NMOC emissions exceeded 50 Mg/year, as required by the 1996 Rules, is no longer appropriate. In reviewing the technical, policy and economic materials in the rulemaking docket, the Working Group was unable to obtain the underlying data supporting EPA’s decision to lower the NMOC threshold, and we were unable to reproduce the Agency’s analysis. Our comments on the proposed rules described our concerns in detail.⁴⁴ EPA responded by indicating that it provided technical justification for lowering the NMOC threshold in the rule preambles, but the Agency did not respond to the concerns about lack of transparency, access to data, or problems with reproducibility of their analysis and conclusions.

⁴⁴ See EPA-HQ-OAR-2003-0215-0099.1 (comment excerpt 20, and comment response).

We were not alone in criticizing the lack of robust and transparent data underpinning the rulemakings. In their Petition for Reconsideration, Sierra Club, Friends of the Earth, Institute for Local Self-Reliance and Center for a Competitive Waste Industry wrote,

The underlying documentation used in the development of the rule that was released online with the Federal Register notices did not provide sufficient detail to replicate the calculation of the methane reductions attributed to the rule change claimed by EPA.⁴⁵

And further,

Petitioners disputed EPA's claimed methane reductions in part on the basis that the documentation was too obscure to make it possible for anyone else to replicate the calculations, which is a necessary step to validate the claimed emission reductions.⁴⁶

EPA itself described the lack of robust data used in assessing potential emissions reductions in the preamble to the final Emission Guidelines Rule:

With the data available, we are not able to provide health benefit estimates for the reduction in exposure to HAP, ozone, and PM2.5 for this rule. This is not to imply that there are no such benefits of the rule; rather, it is a reflection of the difficulties in modeling the direct and indirect impacts of the reductions in emissions for this sector with the data currently available.⁴⁷

Without having otherwise justified the revisions to the rules, EPA relied heavily on the President's Climate Action Plan, Methane Strategy, and Social Cost of Methane to rationalize the increased costs of the lowered standard in the 2016 Rules; however, these documents have been rescinded.

Furthermore, the Agency's regulatory and cost analysis was based on a total of five modeled landfills to represent landfills opening during 2010-2014, combined with five landfills for which construction was already planned. This led EPA to project 10 future landfills subject to the revised Emission Guidelines. In addition, 11 model landfills were created that would be subject to the NSPS. As Sierra Club et. al further noted:

However, the models used to calculate the claimed emission reductions remained obscure. No details were provided to explain anything about what those models (or more accurately "surrogates") consisted of or how they were constructed or validated. Nor did EPA state why it did not simply directly calculate the changes in emissions at the

⁴⁵ Petition for Reconsideration by the Sierra Club, Friends of the Earth, Institute For Local Self-Reliance And Center For a Competitive Waste Industry, at 4 (Oct. 29, 2016) (the "Sierra Club Petition").

⁴⁶ *Id.* at 4-5.

⁴⁷ 81 Fed. Reg. at 59280.

landfills it said it had identified as being affected by the rules, rather than resorting to inapposite, and nontransparent “surrogates.”⁴⁸

2. Wellhead Temperature Operating Standard

In the 2015 Supplemental Proposal for the NSPS, EPA proposed to remove the operational standards for temperature and nitrogen/oxygen from the 1996 Rules, but would still have required monthly monitoring for the parameters. The Working Group commented favorably on EPA’s proposal and stated that by removing these parameters, EPA would be eliminating the most significant barriers to installation of interim gas control measures. The Working Group also commented that the parameters often required landfill owner/operators to request higher operating values (“HOVs”), the granting of which created administrative burdens for state regulators and the industry, and the requests were often delayed or refused by state agencies due to lack of expert resources.

EPA asserted in the preambles of the final 2016 Rules that the reason the temperature parameter was retained is due to EPA’s concerns about landfill fires. However, the Working Group submitted lengthy comments demonstrating that the 55-degree Celsius wellhead operating parameter is an arbitrary limit that is unrelated to landfill fires or anaerobic decomposition. Although EPA acknowledged the comments as a rationale for eliminating the temperature limit from the 1996 Rules, the Agency reversed course in the final 2016 Rules with little explanation beyond citing in a footnote a study entitled “Subsurface Heating Events at Solid Waste and Construction and Demolition Debris Landfills: Best Management Practices.”⁴⁹ An assessment of the study was not available in the docket, nor did EPA explain how the study supported the Agency’s decision to reverse course in the 2016 Rules.

Further, there is nothing in the record or docket to support setting a temperature standard and EPA did not provide a valid reason for deviating from its proposal to eliminate the temperature well-head parameter. In fact, the temperature parameter undercuts EPA’s BSER determination for the landfill sector (i.e. a well-designed and well-operated GCCS). As discussed in Section B, above, temperature is an arbitrary parameter that may actually hinder optimal GCCS operation because sources may need to capture less gas in order to avoid exceeding the temperature limit. Given that the temperature parameter contributes to poor operation of a GCCS, EPA must remove the temperature-based corrective action requirements from the Landfill Air Rules.

3. Tier 4 Wind Speed Restrictions

In the 2016 Rules, EPA altered the proposed methodology for conducting Tier 4; i.e., the collection of site-specific data to more precisely determine NMOC emissions for purposes of

⁴⁸ Sierra Club Petition, at 4.

⁴⁹ 81 Fed. Reg. at 59349, fn 39.

evaluating when a GCCS must be installed. Although the development of a Tier 4 methodology was well received in concept, the final rules included unnecessary and ineffective restrictions on the use of Tier 4. These new requirements rendered the Tier 4 monitoring technically impracticable to implement. EPA proposed to limit the use of Tier 4 when the average wind speed exceeds 5 miles per hour and the instantaneous wind speed exceeds 10 miles per hour.⁵⁰ The Working Group, among other commenters, submitted comments urging EPA not to finalize the proposed wind-speed restrictions, which members of the Working Group identified as unsupported by the available science and unduly restrictive.⁵¹ Neither the Working Group nor any other commenters had any opportunity to comment on use of a wind barrier as an alternative to the wind speed restrictions because there was no indication in any of EPA's proposals that would suggest wind barriers were under consideration.

In the Final 2016 Rules, EPA reduced the wind speed restriction from 5 mph to 4 mph and added a new requirement to use a wind barrier.⁵² EPA failed to support the wind-speed restrictions with required and relevant analysis, did not undertake to demonstrate that wind barrier technology is available to be implemented at subject landfills, and has greatly underestimated the increased burden such requirements will impose on sites with low site-specific emission rates.

E. The Landfill Air Rules Impose Costs that Exceed Benefits.

Executive Order 13777 requires EPA to review the 2016 Rules because the costs of the rules far exceed their benefits. Not only are the costs far more significant than the benefits, they are also far more real, in that the rules will require existing and new landfills to incur significantly higher operating and compliance expenses. In contrast, EPA has made no effort to explain how the relatively miniscule emission reductions that the rules are intended to achieve will improve the lives of anyone in the real world. Instead, the alleged benefits of the rule are entirely dependent on a speculative and flawed "social cost" analysis that has now been rescinded by Executive Order 13783.⁵³ Since the real costs far outweigh the essentially non-existent benefits, the 2016 Rules impose an "unnecessary regulatory burden" that EPA must review. In addition, the Working Group asks EPA to review the 1996 Rules alongside the review of the 2016 rules required under Executive Order 13777 because many individual provisions of the 1996 rules likewise impose unnecessary costs.

⁵⁰ See 80 Fed. Reg. at 52135-36.

⁵¹ See e.g. WM 2015 Comments at 15-16.

⁵² 40 C.F.R. §§ 60.764 (a)(6)(iii)(A) & 40 C.F.R. 60.35f(a)(6)(iii)(A).

⁵³ Note that Executive Order 13783 also expressly requires EPA to "as soon as practicable" suspend, revise, or rescind the Landfill Air Rules because they are related to an arose out of President Obama's Climate Action Plan and Strategy to Reduce Methane Emissions.

1. The Costs of the 2016 Rules Are Significant and Real.

EPA's own cost estimates confirm that the 2016 Rules represent an "economically significant regulatory action"⁵⁴ as defined in Executive Order 12866—*i.e.*, a regulation imposing more than \$100 million in cost. Specifically, EPA estimated that the reduction in the NMOC emission rate trigger would require more landfills to install a GCCS, adding \$93 million in cost *each year* for existing landfills and \$11 million in cost *each year* for new landfills.⁵⁵ Although new control installations on lower-emitting landfills are only one possible source of additional costs imposed under the 2016 Rules, these costs alone are significant and confirm that the rules warrant further review. These significant cost increases exacerbate a total regulatory burden already borne by the industry of more than \$700 million per year under the 1996 Rules, according to EPA's own estimates.⁵⁶

In addition to more stringent control requirements, the 2016 Rules also impose costly new procedural requirements. EPA estimated the new testing and monitoring costs necessary to comply with the 2016 Rules at around \$840,000 for all landfills,⁵⁷ but those estimates are woefully low because they only reflect the additional costs for landfills that must install a control system for the first time under the new rules. EPA's estimates thus fail to account for many new requirements that apply to all landfills with a control system, regardless of when it was installed.

The most significant of the new monitoring requirements imposed under the 2016 Rules is the requirement to monitor all cover penetrations quarterly. EPA ignored the costs associated with the new cover penetration monitoring requirement because EPA characterized it as a mere "clarification" of the 1996 Rules, which already require quarterly surface monitoring. However, the 1996 Rules make abundantly clear that penetration monitoring is *only* required where elevated gas concentrations have been observed, not at *every* penetration,⁵⁸ and that approach has been standard industry practice for decades. In reality, the new requirement to monitor *all* cover penetrations under the 2016 Rules⁵⁹ will likely at least double the quarterly monitoring costs for every landfill in the country. EPA took no account of that significant cost increase in its regulatory impact analyses.

EPA's estimates also take no account of the many new recordkeeping and reporting requirements imposed by the 2016 Rules, including a completely new corrective action root cause analysis procedure. Although EPA may have assumed that these new procedures would

⁵⁴ 81 Fed. Reg. at 59366; 81 Fed. Reg. at 59309.

⁵⁵ 81 Fed. Reg. at 59362, Table 2, note e; 81 Fed. Reg. at 59305, Table 2, note e.

⁵⁶ *Id.* at Table 2.

⁵⁷ *Id.* at Table 2, note e.

⁵⁸ 40 C.F.R. § 60.753(d) (requiring monitoring "where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover").

⁵⁹ 40 C.F.R. § 60.763(d) (requiring monitoring "where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover and all cover penetrations").

not add significant new costs because they were intended to replace the procedures already required under the 1996 Rules, the 2016 Rules require entirely new records and reports on a entirely different schedule, adding significant cost while providing no additional health or environmental benefits. Further, EPA's failure to terminate the 1996 Rules leaves landfills subject to an overlapping and confusing set of duplicative requirements that exacerbate the costs of the new procedures.

As another example, the 2016 Rules require any landfills that have recirculated liquids to submit an annual report that contains voluminous information about liquids addition practices. However, EPA has conceded that it does not have sufficient information to justify imposing a specific standards on landfills that add liquids,⁶⁰ and so the 2016 Rules do not impose any different substantive requirements on such landfills. Thus, EPA has imposed a significant recordkeeping and reporting burden that provides absolutely no real benefit. To the extent EPA wishes to gain a better understanding of how liquids addition may affect emissions, EPA should rely on its information gathering authority, instead of imposing an unjustified compliance obligation under a program that only authorizes EPA to establish standards based on adequately demonstrated control technology and practices.⁶¹

In its regulatory impact analysis for the 2016 Rules, EPA attempted to offset the increased regulatory burden somewhat by claiming that many landfills newly required to install controls would be able satisfy that requirement by constructing landfill-gas-to-energy projects. EPA assumed that the sale of electricity generated by those projects would provide a revenue stream that would offset the additional regulatory costs associated with the 2016 Rules. However, EPA's assumption is incorrect, in that it fails to recognize that most of the landfills that would be required to control emissions for the first time under the new rules would be lower-emitting landfills that likely would not generate enough landfill gas to make an energy project economically viable. Further, the economics of siting landfill gas-to-energy projects are complicated, require much more gas to be viable than EPA assumes, and often involve third parties that are not governed by the Landfill Air Rules. EPA's assumption that gas-to-energy income would offset increased compliance costs is vastly overstated and oversimplified. Thus, EPA should ignore those purported offsets in evaluating the regulatory burden imposed by the 2016 Rules.

In sum, EPA's own cost estimates for the 2016 Rules, although significant, severely underestimate the real costs that landfills will incur. However, even those underestimated costs significantly outweigh the essentially non-existent benefits of the 2016 Rules, which are briefly described below.

⁶⁰ See 81 Fed. Reg. at 59345 & 81 Fed. Reg. at 59289 ("EPA did not receive sufficient data to support a separate subcategory for landfills adding leachate or other liquids.")

⁶¹ See 42 U.S.C. § 7411(a) (defining "standards of performance" as those the Administrator has determined to be "adequately demonstrated").

2. The Alleged Benefits of the 2016 Rules Are Insignificant and Illusory.

Even at face value, the benefits that EPA sought to achieve with the 2016 Rules are minimal. For all of the additional cost imposed by the rules, EPA projected only a three percent reduction in emissions.⁶² And, unlike most other significant rules that EPA has adopted in recent years, EPA made no attempt to assign a health-based value to explain how these minor reductions will provide any real health or environmental benefits.

Instead, EPA claimed that “climate benefits” justify the 2016 Rules. However, even after converted to 8.2 million tons per year (tpy) of carbon dioxide equivalent (CO₂e), using a relatively high multiplier for the “global warming potential” of methane, the result remains inconsequential once put into context. Though perhaps a large value in appearance, the promised CO₂e reduction is a small fraction of total landfill methane emissions of 115.7 million tpy CO₂e. The projected reduction appears even smaller when compared to total U.S. methane emissions of 655.7 million tpy CO₂e, largely due to the fact that landfills only account for 17.6 percent of the country’s methane emissions (landfills are only the third largest anthropogenic source of methane emissions, behind oil and gas production and enteric fermentation).⁶³

The methane reductions that EPA attributed to the 2016 Rules also appear miniscule in comparison to total anthropogenic greenhouse gas (GHG) emissions in the United States. In spite of the higher global warming potential assigned to methane, that pollutant still only accounts for 10 percent of the country’s total GHG emissions.⁶⁴ As such, the relatively small methane reduction that EPA projected as a result of the 2016 Rules is only a tiny portion of the total U.S. GHG emissions of over 6,500 million tpy CO₂e. Moreover, U.S. GHG emissions are only about 15 percent of total global anthropogenic GHG emissions,⁶⁵ which reached 49 gigatons CO₂e in 2010, a massive total that the 2016 Rules could not possibly influence enough to provide actual, real-world benefits to anyone.⁶⁶

In spite of the clear and obvious fact that the GHG emission reductions projected by EPA will not have any real effect on global climate trends, EPA relied on the “social costs” of methane and CO₂ in attempting to justify the 2016 Rules with a monetized value. Specifically, EPA concluded that, based on those “social costs” analyses, the 2016 Rules would provide a net benefit of \$390 million and \$62 million (for the NSPS and emission guidelines, respectively).⁶⁷ In those calculations, EPA even claimed additional benefits based on CO₂ reductions from power plants that have nothing to do with landfills, again based on the false assumption that

⁶² 81 Fed. Reg. at 59362; 81 Fed. Reg. at 59305.

⁶³ See Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2015, at ES-15.

⁶⁴ *Id.* at ES-8.

⁶⁵ <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data>

⁶⁶ IPCC, 2014: Summary for Policymakers. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

⁶⁷ 81 Fed. Reg. at 59366 (NSPS); 81 Fed. Reg. at 59309 (EG).

the 2016 Rules would encourage new landfill-gas-to-energy projects, which EPA counted as an offset to overall power plant demand.

In determining whether the 2016 Rules warrant review under Executive Order 13777, EPA should ignore all of these illusory benefit calculations. If nothing else, Executive Order 13783 clearly prohibits EPA from relying on the “social cost” analyses, which should eliminate from consideration all of the benefits that EPA was able to monetize when it adopted the rules. That result is appropriate in light of the many fundamental flaws inherent in the “social cost” analyses, chief among them the unfairness inherent in comparing a short-term U.S. cost estimate to a highly speculative and extraordinarily long-term guess about potential global benefits. And even those “social cost” analyses actually admit that reducing all U.S. GHG emissions to zero “would be far from enough to avoid substantial climate change,”⁶⁸ further confirming that the minor reductions required by the 2016 Rules would be meaningless. Although EPA also claimed that the rules would produce some forms of benefits that could not be monetized, the inability to quantify those benefits suggests they must be truly infinitesimal.

3. The 2016 Rules’ Real Costs Far Exceed the Alleged Benefits.

All told, the costs of the 2016 Rules are real and significant—at least \$100 million by EPA’s own estimate, and perhaps many times that amount—while the benefits are essentially zero, given that they are based entirely on a flawed, and now rescinded, “social cost” analysis. Accordingly, the 2016 Rules easily qualify as rules that “impose costs that exceed benefits” and therefore warrant a full review under Executive Order 13777.

4. EPA Should Also Review the Provisions of the 1996 Rules that Impose Costs Greater Than Benefits.

To ensure the 1996 Rules are no more burdensome than necessary to ensure appropriate control of landfill gas, the Working Group asks EPA to review the 1996 Rules alongside the review of the 2016 Rules that is now required by executive order. Only through reviewing all of the Landfill Air Rules together will EPA and the industry be able to work together in crafting a reasonable set of regulations to protect human health and the environment while minimizing regulatory burden and cost.

* * *

The Working Group appreciates your consideration of our comments and recommendations. We look forward to continuing to work with you on the development of regulatory proposals for revising the Landfill Air Rules. If you have any questions, please do not hesitate to contact any of the undersigned Working Group representatives at your earliest convenience.

⁶⁸ Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (revised 2015), at 14.

Message

From: Traci Kraus [traci.kraus@cummins.com]
Sent: 5/24/2017 7:51:48 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]
CC: Washington, Valerie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9d031c02ce3a416dad0d421ee998d5a3-VWASHING]
Subject: RE: Introduction

Thanks so much, Mandy and Valerie! Let me know what works on your end- I can be flexible.

Best,

Traci Kraus
Director, Government Relations
Cummins Inc.

601 Pennsylvania Ave. NW
Suite 1100N
Washington, DC 20004
Office: 202-654-4285
Cell: 202-302-5851

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Wednesday, May 24, 2017 3:47 PM
To: Traci Kraus <traci.kraus@cummins.com>; Bolen, Brittany <bolen.brittany@epa.gov>
Cc: Washington, Valerie <Washington.Valerie@epa.gov>
Subject: RE: Introduction

Yes – happy to meet on this.

Valerie, can you help set up time/place that works for everyone?

Best,
Mandy

From: Traci Kraus [mailto:traci.kraus@cummins.com]
Sent: Wednesday, May 24, 2017 3:30 PM
To: Bolen, Brittany <bolen.brittany@epa.gov>
Cc: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Introduction

Hi Brittany,

It was great to meet you at the Chamber meeting yesterday morning. I really appreciated hearing your perspective on all of the opportunities you and your team have at the agency. As we discussed, I work at Cummins and lead our government relations efforts on energy and environment issues, including truck and engine regulation for fuel efficiency and NOx.

I also mentioned that my colleague, Brian Mormino, was in town for meetings with the White House and your colleagues Ryan and Mandy (cc'd) at EPA to discuss some of these issues. I know we wanted to follow up with Mandy and keep you all in the loop on our discussions with the WH (Mike Catanzarro) regarding potential regulation streamlining and next-tier NOx, and I wanted to see if you might have time for a 30 minute meeting or call with me and Brian to fill you in on discussions.

Please let me know if this may be of interest to you.

Thanks so much!

All the best,

Traci Kraus

Director, Government Relations
Cummins Inc.

601 Pennsylvania Ave. NW
Suite 1100N
Washington, DC 20004
Office: 202-654-4285
Cell: 202-302-5851

Message

From: Jan Brunner [info@mailva.evite.com]
Sent: 4/30/2017 6:15:15 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Cheese, chocolate, wine...Fondue-orama!



You're Invited
Cheese, chocolate, wine...Fondue-orama!

Jan Brunner sent you an invitation.

RSVP Now!

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review our privacy policy.

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that you receive Evite emails in your inbox.

Have a question? Visit Evite's support page.

Don't want to receive any Evite emails from this person?
[Block this host.](#)

This email was sent to gunasekara.mandy@epa.gov

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Message

From: Mark Carr [markc@channeldesigngroup.com]
Sent: 5/31/2017 12:53:25 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,];
Subject: FW: TRCS Letter to President Trump , copy to Pruitt, Perry & Tillerson
Attachments: 2017-05 TRCS Letter to President Trump--FINAL with signatures May 26 .pdf; 2016-11-30 RECOMMENDATIONS TO THE TRUMP EPA TRANSITION TEAM.pdf

Personal Email / Ex. 6

Mandy, Kindly note the attachments prepared by a corps of retired NASA astronauts. The attachments are a petition and a recommendation for a scientific panel. Kindly let me know if you have questions.

Respectfully,

Mark J Carr
CO2 Coalition communications

Channel Design Group
314-616-6957
MarkC@ChannelDesignGroup.com
DC - NOLA - StL

**RECOMMENDATIONS TO THE TRUMP
TRANSITION TEAM INVESTIGATING ACTIONS
TO TAKE AT THE ENVIRONMENTAL
PROTECTION AGENCY (EPA)**

A Report of The Right Climate Stuff Research Team

www.therightclimatestuff.com

Harold H. Doiron, Chairman

November 30, 2016

Houston, Texas

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Abstract

The TRCS goal is to determine the extent to which burning fossil fuels can cause harmful global warming. To determine if this is the root cause of the slight amount of observed global warming, we did a simple bounding analysis based on the physics of interaction of currently increasing atmospheric CO₂ with heat radiating from the sun and the earth. In accordance with "The Scientific Method," we compared our results with the best available global temperature data measured since the beginning of widespread use of fossil fuels. Our analysis fits the measured Global Mean Surface Temperature (GMST) data for the past century and a half very well and we predict that CO₂ emissions will continue to have no significant effect on global warming. In our report, our validated model predicts at most, only 1 deg C additional warming above current levels by 2100. This is in clear contrast to the poor, unvalidated models used for justification by the EPA to start unilateral CO₂ emission controls that have a serious potential for wrecking the US economy without having any effect at all on climate.

The power and uniqueness of our approach is that the measured data reflects the results of the actions and interactions of the numerous climate forcing functions which have confounded attempts to solve this complex problem by use of computerized climate models for the last 37 years. We believe our analysis has the same quality of accuracy as many of the analyses we performed for manned space flights during the Apollo program.

TRCS Motto

"In God we trust, all others bring data"

It doesn't matter how beautiful your theory is, it doesn't matter how smart you are. If it doesn't agree with experiment, it's wrong.

Richard Feynman 1918-1988

RECOMMENDATIONS TO THE TRUMP TRANSITION TEAM INVESTIGATING ACTIONS TO TAKE AT THE ENVIRONMENTAL PROTECTION AGENCY (EPA)

Harold H Doiron

Chairman, The Right Climate Stuff Research Team

November 30, 2016

SUMMARY OF RECOMMENDATIONS

It is imperative that the scientific and threat risk arguments used to justify the EPA's CO2 Endangerment Finding and Social Cost of carbon (SCC) values, be reviewed by a scientific panel composed of members from broad scientific backgrounds and experience, and without conflicts of interest. Our research team of retired NASA Apollo Program veterans has such a broad base of scientific expertise and experience, without conflicts of interest, as we have reached our conclusions from an unfunded, all-volunteer, independent and objective study of these issues as documented in various reports and climate conference presentations posted on our website: www.TheRightClimateStuff.com

We recommend:

- NASA's Independent Program Assessment Office (IPAO) as a model federal government office experienced in vetting and selecting a broad spectrum of qualified review team members without conflicts of interest.
- Using NASA-STD-7009 as a guideline for model validation and configuration control requirements for models used for design or operational decisions involving human safety. The unilateral GHG emissions regulations the EPA has decreed and proposed have potentially far greater consequences for our nation than loss of manned spacecraft crewmembers, as devastating as that has been in past.
- Establishing a moratorium on CO2 emissions regulations for the next 5 years to allow for more focused research and independent scientific reviews to remove excessive uncertainty from current un-validated models used to compute SCC. Our independent assessment with validated models and CO2 emission scenarios constrained by actual data presented herein, proves we do not have a rapidly developing climate problem requiring swift corrective action in the face of very large uncertainty regarding whether a climate problem exists, or not.
- EPA use proven, disciplined processes successfully employed within other US government agencies, such as NASA and the US military, for defining and specifying problems and proving their root cause, before deciding through a rational decision process, the optimal approach for mitigating the specifically

defined problem. Despite irrational claims to the contrary, we do not have a global climate problem defined by GMST variations outside of the very stable normal variations of the last 10,000 years that had nothing to do with atmospheric CO₂ variations. There is not one specific location on earth with a current climate deviation outside of normal variations of the last 10,000 years.

- Problems to be mitigated should be defined in terms of data indicating deviations outside of normal limits and should be specified in terms of What? Where? When? and How Much? are the deviations occurring. Only then will there be enough data available to determine true root cause(s) to guide optimal mitigation strategies.
- If a specific climate problem is identified and specified, evaluate a broader range of mitigation options than CO₂ emissions regulations, as a possible solution option with lower cost and higher probability of success. For example, if sea level rise is a specific threat to a specific region, evaluate the cost, schedule and probable success of building a sea wall to mitigate the threat, as opposed to the probable cost and success of enforcing world-wide GHG emissions controls. SCC cannot be used intelligently as a universal metric for deciding mitigation options for more specifically defined problems than a vaguely proposed “global climate problem”.
- Using the HadCRUT4 surface temperature anomaly database as the best available proxy for long-term Global Mean Surface Temperature (GMST) change for climate model validation, as it is the only thermometer record dating back as far as 1850. Also, for years since 1978 when better spatial global temperature coverage from satellites has been available, the HadCRUT4 data are in better agreement with NASA’s UAH-LT and NOAA’s RSS satellite temperature measurements than other available long term databases such as NASA’s GISTEMP surface temperature database that begins in 1880.
- Forecasts of future GMST increase with rising atmospheric Greenhouse Gas (GHG) concentrations depend on two key variables:
 - GMST sensitivity to atmospheric GHG concentrations, typically discussed in climate science publications in terms of “climate sensitivity” metrics such as Equilibrium Climate Sensitivity (ECS) and Transient Climate Response (TCR). Neither of these two metrics can be verified with actual data as their official definitions depend on un-validated climate model simulations. We recommend a new metric for GMST forecasting that can be verified with available data, Transient Climate Sensitivity (TCS), similar in definition and value to TCR, but with much less uncertainty than the speculative ECS metric.
 - A forecast of atmospheric GHG and aerosol concentrations for the future

- Results of validated models, where these key forecasting variables are constrained by available data, are required for public policy decisions devoid of excessive speculation.
- We recommend:
- The TRCS Climate Model presented herein as a validated climate model utilizing the data-derived TCS metric, as a model suitable for forecasting GMST change as a function of atmospheric CO₂ concentration. TCS in this model is estimated to be 1.2C and is close to TCR values published in other recent peer reviewed published literature where the TCR estimates are based on actual climate data. However, our TRCS Climate Model uses an even less uncertain metric, $TCS(1+\beta) = 1.8C$ for forecasting, where β is the somewhat uncertain historical fraction of CO₂ radiative forcing contributed by the history of other atmospheric GHG and aerosol concentrations, that is by far the largest factor contributing to uncertainty in recent publications for TCR.
 - The TRCS RCP6.0 “Business As Usual” atmospheric GHG and aerosol concentration forecast presented herein as a world-wide fossil fuel reserves data-constrained baseline forecast, if world-wide GHG emissions controls are not implemented. The recent IPCC AR5 Report also published a similar RCP6.0 scenario that assumed only modest world-wide CO₂ emission controls would ever be implemented. In contrast, our RCP6.0 emissions scenario assumes a market-driven transition to alternate fuels will be required as currently known world-wide reserves of fossil fuels are consumed.
- With respect to the recommended scientific review of the current Social Cost of Carbon (SCC) calculation methodology, we recommend for review the following specific issues identified from our independent, objective assessment of the SCC Monte Carlo calculation process:
- Choice of ECS instead of the much less uncertain TCR metric that is much better suited for 300 year forecasts of GMST. ECS is a climate sensitivity metric based on highly speculative GMST temperature rise occurring more than 1000 years after atmospheric CO₂ levels are suddenly doubled and artificially held at the doubled value. The TCR metric defines GMST rise from a doubling of CO₂ concentration at a slowly rising 1 percent per year rate that takes 70 years for the doubling to occur. Our proposed TCS metric would be an even better choice, as it is verifiable with actual data and is defined by the actual slow, but variable

rise rate of CO₂ concentration in our atmosphere, that will take about 230 years to double its 1850 value.

- SCC dependence on un-validated General Circulation Models (GCMs) as a basis for developing a highly speculative statistical uncertainty distribution for the ECS metric.
- Design of the highly speculative Baker-Roe statistical distribution for ECS that has 20 percent of samples higher than the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) recommended upper range of 4.5C for ECS and allows statistically sampled values as high as 10C. Arbitrarily deciding 20 percent of ECS samples should be higher than 4.5C, skews statistically “expected SCC” values produced from the Monte Carlo process to be arbitrarily high. This decision effectively offsets much of the relatively certain economic damage that could be attributed to imposing GHG emissions regulations. The technical publications used to justify the ECS statistical distribution are obsolete. Many recent publications since 2010, where ECS and TCR uncertainty ranges are constrained by climate data, provide much lower mean and upper range limits for ECS and TCR than older publications referenced in the SCC TSDs. Any statistical distribution used should be validated by actual analysis of climate data, not the speculation of un-validated GCMs as employed in the current SCC calculation process.
- The model validation concern issue for the critical step in how the various Integrated Assessment Models (IAMs) compute a forecast of 300 years of transient temperature rise from statistically sampled ECS values. The details of this important aspect of the SCC calculation process were not disclosed in the three Technical Support Documents (TSDs) describing the current SCC calculation process. These details are crucially important to the SCC results produced.
- Uniform sampling of the 5 selected emissions scenarios in the Monte Carlo process instead of other possible statistical distributions that would weigh more likely scenarios with higher probability. The statistical treatment of emission scenarios is just as important as statistical samples of ECS values for computing statistically expected values of SCC. Outlier scenarios such as the “MERGE-optimistic” scenario used in the current SCC calculation are not as probable as data-constrained scenarios such as our RCP6.0 scenario. The selection of emission scenarios and their statistical treatment needs careful, independent scientific review
- SCC values are computed in terms of \$/Gt of GHG emissions, but GMST warming and damage is computed as a function of atmospheric GHG concentrations. The critically important model validation step for how

each IAM converts emissions to atmospheric GHG concentrations was not disclosed nor discussed in the SCC TSDs. Our independent study identified this as a critical aspect of future atmospheric CO₂ concentration and GMST forecasting that needs to be constrained by available data.

- The computed damages and benefits from increasing GHG emissions cannot possibly be a validated aspect of the IAMs, as they all give widely differing results for SCC. Averaging widely varying results from models whose authors claim compute the same SCC metric, cannot provide a safe and reliable approach for serious public policy decisions with potentially severe unintended consequences. This practice can be compared to computing the structural strength of a commercial airplane wing with three different models that give widely varying results and then averaging the results to determine if the wing strength satisfies Federal Aviation Administration (FAA) requirements. Who would feel safe as a passenger on this airplane? By what rationale did the Dept. of Transportation (DoT) representatives to the Interagency Working Group (IWG) that developed the SCC computation process concur with this decision? Did they represent the position of the DoT's FAA that enjoys wide support and high public trust for ensuring safety of airline travel with FAA imposed regulations?
- The SCC TSDs did not provide adequate information on key SCC calculation process variables and statistics vs. time that could be used as "sanity checks" on reasonableness of the SCC values obtained from the process. For example, statistics on GMST vs. time and atmospheric CO₂ concentrations vs. time that drive the SCC calculation process were not disclosed. Much of the current SCC damage results from projected sea level rise, but nothing was disclosed in SCC TSDs regarding model output statistics of sea level rise rates and whether they were reasonable within available data. A reasonable sanity check on only the statistics for ECS, computed GMST vs. time, and computed sea level rise aspects of the IAM computations, would be to:
 - Use the median of the IPCC AR5 atmospheric GHG and aerosol concentration history from 1850 through 2015 as the baseline atmospheric GHG history since 1850
 - Start the GMST prediction process in 1850 using the AR5 estimate for the actual past atmospheric GHG history and compare the IAM statistics to GMST and sea level rise trends since 1850.
- Review the issues related to compliance with OMB Circular A-4 guidance on use of domestic vs. global damage and benefits from domestic CO₂ emissions

- Review issues related to non-compliance with OMB guidance on use of discount rates for the published SCC values.

1.0 INTRODUCTION

The Right Climate Stuff (TRCS) Research Team is an all-volunteer research group comprised primarily of NASA retiree veterans of Apollo, Skylab, Space Shuttle and International Space Station manned space programs. We have been joined by other experienced research leaders from US industry and universities, in our goal to determine to what extent unrestricted emissions of Greenhouse Gases (GHG) can warm the Earth's surface. We have more than 30 members on our research team. Our conclusions from 4.5 years of independent, unfunded, objective research and independent scientific investigation, are posted on our website, www.TheRightClimateStuff.com, in various reports and video presentations our members have made at international climate conferences and university lectures.

As most of our research team are former Federal Government employees in NASA's manned space programs, we are intimately familiar with how scientific and engineering research and development, and related government decision-making, where human safety was involved, was carried out by responsible and accountable NASA government officials during our careers. We have unique experience in scientific investigations supporting root cause analyses and rational decision-making, to address threats to astronaut safety under limited time constraints, and where poor decisions on complex technical issues with incomplete understanding and large uncertainties, can have severe un-intended consequences, including loss of spacecraft and crews. We believe our research team of highly trained and experienced scientists and engineers, represents a national asset that should be utilized by our nation's leaders to develop more rational responses to the perceived threat from rising atmospheric GHG concentrations.

Although we are not climate scientists per se, our research team has internationally recognized experts in chemistry, physics, geology, geo-physics, engineering, applied mathematics and computer simulation of complex phenomena. We had no difficulty reading, understanding and discussing strength and weaknesses of climate science publications that apply basic knowledge from our competency fields of science to the climate change issue. While the theorized effects of atmospheric GHG concentration are relatively simple to model, we observe that the other natural processes affecting climate change are not well-understood and are questionably accounted for in current General Circulation Models (GCM) that have been the primary modeling tool in climate science. Most of the federally funded climate research has been focused on the GHG concern, while clearly the changing climate is affected by many parameters whose effects are not well-understood nor completely modeled in GCMs. We consider it scientifically foolish to try to control the climate with one minor parameter, GHG

emissions, when so much atmospheric GHG and aerosol concentration variations are due to natural processes and many more important parameters affecting our climate cannot be controlled. In aerospace engineering practice, this ill-advised approach is known as trying to control a system with very poor control authority. It is rarely ever successful.

Our review of the scientific work supporting the Environmental Protection Agency's (EPA) Endangerment Finding and SCC valuation, used to justify the cost/benefit assessment of GHG emissions regulations, finds they are seriously lacking in scientific reasoning consistent with The Scientific Method. As former Federal Government employees with responsibility for scientific and economic assessments for critical decisions involving human safety, we are extremely disturbed by an apparent lack of scientific rigor and integrity in both the EPA Endangerment Finding and SCC calculation methodology. Given the potentially severe impacts to our nation's economy and harm to US citizens from proposed EPA GHG emissions regulations, we believe it is imperative that the scientific and threat risk arguments used to justify the Endangerment Finding and SCC values, be reviewed by a scientific panel composed of members from broad scientific backgrounds and experience, and without conflicts of interest.

It appears to us that the current EPA prefers to let lawsuits against it from companies and states play out in the US court system, to adjudicate the scientific and economic issues involved. The US Congress seems to be under the impression that it has sufficient laws and rules in place to force agencies such as the EPA, to resolve these issues internally using independent, objective peer-review teams. Our research team members have often participated in such independent scientific reviews on either side of many issues NASA regularly submitted to independent "non-advocacy" reviews. Based on that experience it is our opinion that neither the independent peer reviews conducted by the Interagency Working Group (IWG) that developed the SCC computation methodology, nor the EPA have used truly objective independent peer review teams with no conflicts of interest, to review and concur with their scientific conclusions. We recommend NASA's Independent Program Assessment Office (IPAO) as a model federal government office experienced in vetting and selecting a broad spectrum of qualified review team members without conflicts of interest.

https://www.nasa.gov/sites/default/files/files/IPAO_Brochure-508-1_Tagged.pdf

We also recommend such independent review teams be convened to review climate research findings at NASA and NOAA, since the technical publications from federal employees in these agencies are often used by the EPA as scientific justification for its decisions. NASA has informed NASA manned space program retirees who expressed concern about public announcements regarding conclusions of climate research within NASA, that NASA as an agency does not take an official position on climate research published by its employees.....

http://www.huffingtonpost.com/2012/04/11/nasa-global-warming-letter-astronauts_n_1418017.html

We do not believe NASA is managing its climate research nor vetting its technical publications used in EPA decision-making, with the same level of independent, “non-advocacy” assessment scrutiny, used for decisions in its manned and major un-manned space programs. This report will summarize the independent research and conclusions our research team achieved after 4.5 years of independent, objective study as suggested by the official NASA response to our initial NASA retiree letter discussed at the above link.

2.0 INDEPENDENT TRCS CLIMATE MODEL

2.1 Independent TRCS Model Provides Baseline for Critique of SCC

The opinions and recommendations expressed in this report are based in part on results of our own simple TRCS Climate Model, rigorously derived from Conservation of Energy principles and basic radiation heat transfer physics used in our manned space program to compute internal and external touch temperatures of orbiting spacecraft. Like the earth, the transient thermal environments of orbiting spacecraft are determined from incoming radiation heat transfer from the Sun balanced by energy radiated from the spacecraft surface to deep space and heat stored within the spacecraft. The spacecraft surface temperature increases until the radiation to deep space can balance the incoming and stored energy transfer rates. Also, like the earth, we often rotate spacecraft in a “bar-b-que mode” to control internal and external temperatures. We validated our model with 165 years of atmospheric GHG, aerosol and Global Mean Surface Temperature (GMST) data using System Identification methods analogous to methods we use for spacecraft orbit determination.

2.2 TRCS Climate Model and Model Validation

Our very simple model, that conservatively assumes all the observed long-term increase in GMST is caused by rising atmospheric GHG concentrations, is given by the algebraic equation that predicts yearly average GMST, GMST(year) as a function of yearly average CO₂ concentration, CO₂(year),

$$\text{GMST}(\text{year}) = \text{GMST}(1850) + \text{TCS}(1+\beta)\text{LOG}[\text{CO}_2(\text{year})/\text{CO}_2(1850)]/\text{LOG}[2] + 0.021(\text{year}-1850)/155 \quad (1)$$

The derivation of this equation is presented in Appendix A. The last term accounts for the warming due to Total Solar Insolation (TSI) increase from 1850 to 2005 and becomes a constant 0.021C for years after 2005. This provides some conservatism in the equation for projections after 2005, as TSI rise ended in about 2005 and is forecast to decrease for the next 200 years or more. For an even simpler equation, this last term can be ignored as it accounts for only 0.021C of the GMST rise since 1850. The model was validated by determining the constant TCS(1+β) that provided a best fit of equation (1) to the HadCRUT4 temperature anomaly data set for which yearly average values

are published for 1850 and subsequent years. The changes in this global earth surface temperature anomaly provides an approximation to the actual GMST change over time.

2.2.1 Transient Climate Sensitivity (TCS) and Transient Climate Response (TCR)

We defined Transient Climate Sensitivity (TCS) in equation (1) to be the GMST increase that will occur due to a doubling of the atmospheric CO₂ concentration by the actual concentration rise history from 1850 until the year when CO₂(year) is twice its 1850 value. TCS is a verifiable metric and includes effects of all feedbacks on transient GMST response to rising atmospheric CO₂ levels. TCS is similar in value and definition to the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) definition of Transient Climate Response (TCR) discussed in many climate science publications. However, the IPCC defines TCR as the GMST temperature change caused by a hypothetical atmospheric CO₂ concentration rise rate of 1 percent per year that can only be computed with climate simulation models and that cannot be directly verified with actual data. While CO₂ concentration doubles in about 70 years in the TCR definition, we estimate that it will take about 230 years for atmospheric CO₂ to double its 1850 value in the verifiable TCS definition.

Our analysis of the actual CO₂ rise rate history and the hypothetical 1 percent per year rise rate used to define TCR, concluded they were both sufficiently slow rise rates that there should be minimal dynamic overshoot in the transient temperature response; and therefore, both TCS and TCR should have the same value. This slow forcing function application argument to the earth's climate system dynamics is analogous to the case of a simple spring-mass-damper dynamic system where a slowly increasing force is applied to the mass to double its original applied force, and the final equilibrium static displacement of the mass is measured to determine the spring constant, K. If the factor of 2 force change is applied at an even slower rate of increase, the negligible dynamic overshoot of the equilibrium displacement counteracted by system damping, is even smaller, and the final static equilibrium displacement of the mass is observed to be the same, and yields the same value for the spring constant, K, where

$$K = (\text{change in applied force})/(\text{change in mass displacement})$$

2.2.2 Atmospheric CO₂ Concentration Data Used for TRCS Model Validation

We used National Oceanic and Atmospheric Administration (NOAA) published data from East Antarctica Law Dome ice core samples to determine CO₂(1850) = 284.7 ppm in equation (1). The ice core data were also used to determine CO₂(year) for subsequent years until 1959 when more accurate NOAA Mauna Loa Hawaii atmospheric CO₂ concentration measurements began. The 20 overlapping years from 1959 to 1978 where both the ice core and Mauna Loa data are available and are in good agreement, provides confidence in the use of the smoothed ice core CO₂ data for the 1850-1958 period. The logarithmic terms in equation (1) model the increasing radiative forcing of the increasing atmospheric CO₂ concentration over time. The parameter β is the somewhat uncertain net fraction of CO₂ radiative forcing contributed

by aerosols and effects of GHG other than CO₂. In general, when data are available, β can be treated as a variable with different yearly average values denoted by $\beta(\text{year})$. However, in equation (1) we have used β to represent a constant of somewhat uncertain value representing the average radiative forcing effects of GHG and aerosols relative to CO₂ over the time it will take CO₂ to double its 1850 value. The uncertainty in β however, does not affect the uncertainty in the constant $\text{TCS}(1+\beta)$ determined from GMST data.

Note that equation (1) is scaled such that when CO₂(year) doubles its CO₂(1850) value, the logarithmic expression evaluates to 1.0 and the total GMST change since 1850 will be equal to $\text{TCS}(1+\beta)$. This states that the total GMST change measured is due to the CO₂ concentration doubling (The TCS contribution) plus the net effects of increased concentrations of other GHG and aerosols since 1850.

2.2.3 TCR Uncertainty vs. $\text{TCS}(1+\beta)$ Uncertainty

As discussed in Lewis and Curry (2014), the TCR value (which they tacitly use to mean our definition of TCS) has uncertainty due primarily to the uncertainty in the history of atmospheric aerosol concentration and the large uncertainty regarding warming and cooling effects of atmospheric aerosols. However, $\text{TCS}(1+\beta)$ has much less uncertainty than $\text{TCS} = \text{TCR}$, and is due only to the uncertainty in the GMST change since 1850 and uncertainty in CO₂(1850) = 284.7 ppm. We don't need to quibble about uncertainty related to whether the Mauna Loa yearly average CO₂ concentration is an accurate representation of the global average CO₂ concentration, as we can just choose to make the TCS definition in terms of the Mauna Loa published data.

2.2.4 TRCS RCP6.0 "Business As Usual" GHG Emissions Scenario

The green curve in Figure 1.0 is the atmospheric CO₂ concentration history from 1850-2015 together with our projection for 2016 to 2100 read from the scale on the right hand vertical axis. Our GHG emissions scenario on which this projection is based has a Representative Concentration Pathway (RCP) rating of RCP6.0, meaning its radiative forcing in 2100 will be 6.0 W/m² due to all atmospheric GHG and aerosol concentration increases since 1750.

This RCP6.0 emissions scenario is similar to the IPCC AR5 Report RCP6.0 scenario that assumes some modest world-wide CO₂ emissions controls will be implemented later in this century. In contrast, our RCP6.0 "business as usual" scenario with no effective world-wide CO₂ emission controls enforced, assumes a gradual market-driven transition to non-CO₂ emitting energy sources will be required beginning about 2050, to supply growing world-wide energy demand, as costs to recover these rapidly depleting fossil fuel reserves increase over time. The scenario uses US Energy Information Administration (EIA) data on current world-wide reserves of coal, oil and natural gas, that when recovered and burned, will result in a maximum atmospheric CO₂ concentration of 600 ppm in about 2130. The RCP6.0 scenario projects 585 ppm CO₂

in 2100 and assumes that other atmospheric GHG and aerosols will continue to contribute their net average historical value of 50 percent of the more accurately known CO₂ concentration radiative forcing. The 50 percent historical value, represented by $\beta = 0.5$, was determined from analysis of IPCC AR5 Report data on radiative forcing of atmospheric aerosols and GHG other than CO₂ during the 1750 to 2010 time period.

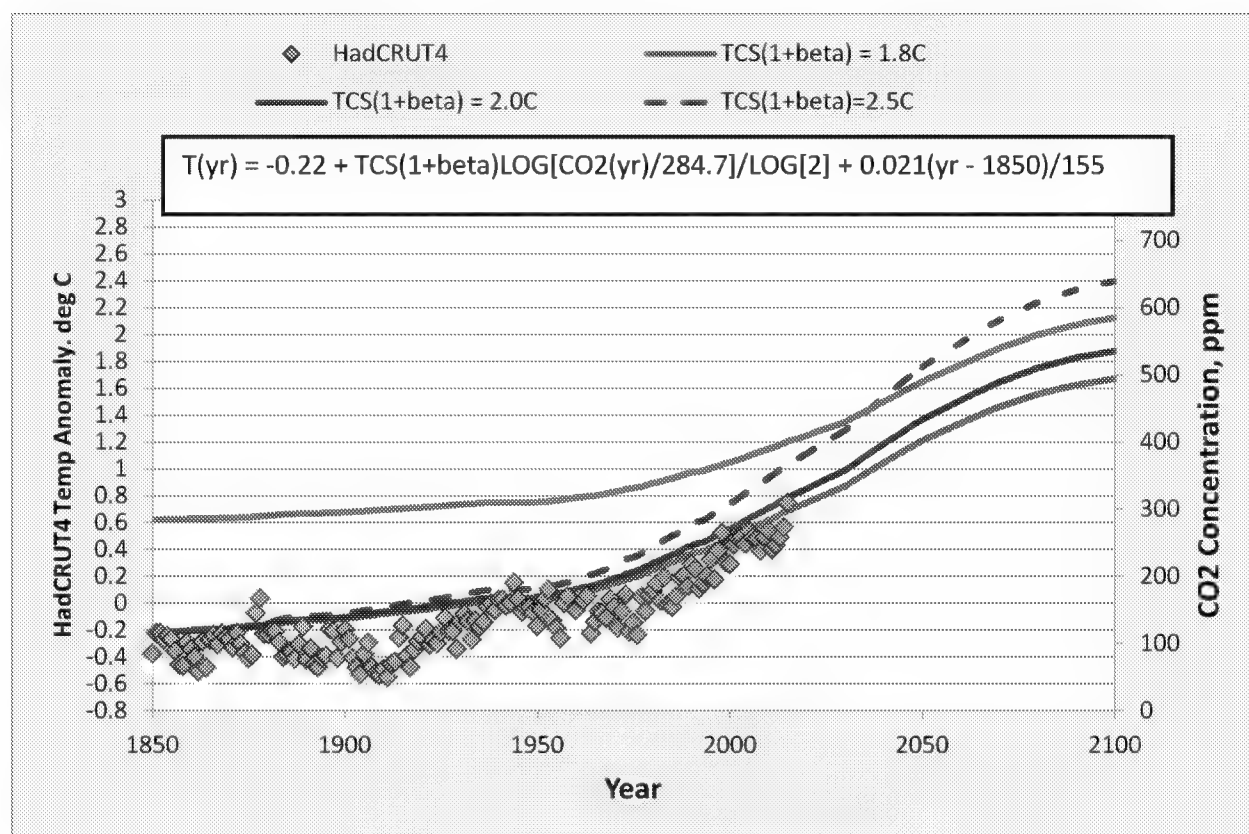


Figure 1.0 TRCS Climate Model results compared to HadCRUT4 temperature anomaly

2.2.5 Determining A Best Data Fit Value for $\text{TCS}(1+\beta) = 1.8\text{C}$

Since CO₂ concentration has already increased its 1850 value by more than 40 percent, it is possible to estimate an accurate value for the constant $\text{TCS}(1+\beta)$ by determining its value that provides a best fit of equation (1) to the actual long-term GMST change since 1850. This is demonstrated in Figure 1.0 where “trajectories” of GMST(year) are computed for different values of $\text{TCS}(1+\beta)$ and compared to actual temperature data. We used the HadCRUT4 surface temperature anomaly database as a proxy for GMST temperature, as it is the only thermometer record dating back as far as 1850. Also, for years since 1978 when better spatial global temperature coverage from satellites has been available, the HadCRUT4 data are in better agreement with NASA’s UAH-LT and NOAA’s RSS satellite temperature measurements than other

available long term databases such as NASA's GISTEMP surface temperature database that begins in 1880.

As observed in Figure 1.0, the HadCRUT4 temperature anomaly for yearly average values has a data scatter of about 0.4 K from min to max over any 5-year period. This data scatter is about half of the long-term temperature increase of about 0.8C from 1850 through 2014. Choice of an appropriate baseline value for the HadCRUT4 temperature anomaly in 1850 can have a significant effect on the value of $TCS(1+\beta)$ that will cause eq. (1) to provide a best fit to the long-term HadCRUT4 temperature rise trend.

After analysis of the entire HadCRUT4 dataset, it was observed that the maxima of the HadCRUT4 data scatter in the 1850-1900 period, except for the "outlier" data points for 1877 and 1878, provided a sharp baseline from which to measure long-term temperature change. The HadCRUT4 outlier data points for 1877 and 1878 were determined to be associated with a Super El Nino weather event, not due to GHG related temperature rise and were ignored in establishing the baseline. Analysis of HadCRUT4 data points for years with recent Super El Nino events of 1998 and 2015 also exhibited a narrow separation from maxima of HadCRUT4 data points of neighboring years. Therefore, it was reasoned that a fit of equation (1) to the narrow path between maxima of the HadCRUT4 data scatter and HadCRUT4 data points of Super El Nino years would provide the most accurate interpretation of the data set for long-term temperature rise that could be associated with monotonically rising atmospheric GHG concentrations.

The blue curve in Figure 1.0, with $TCS(1+\beta) = 1.8C$, provides this type of "best fit" to the data with the initial value for GMST(1850) selected to be -0.22C. This choice for GMST(1850) caused all curves to tightly bound the maxima of the HadCRUT4 data scatter in the 1850 – 1900 time period except for the Super El Nino weather event years of 1877 and 1878. The blue curve continues to "thread the needle" between upper levels of HadCRUT4 data scatter and the outlier data points of Super El Nino years, including the more well-known recent Super El Nino years of 1998 and 2015. Based on the 10 months through October 2016 for HadCRUT4 data, also affected by the most recent Super El Nino event, the HadCRUT4 data point for 2016 will be close to the 2015 value and will also lie close to or below this blue curve.

This blue curve has accurately followed the long-term GMST rise that could be attributed to rising atmospheric GHG concentration over the last 165 years, and in our opinion, provides a high-confidence determination for GMST sensitivity to atmospheric GHG concentration changes. This bounding approach in fitting the data points helps reduce the uncertainty in $TCS(1+\beta)$ created by the choice of beginning and ending periods for averaging a number of HadCRUT4 yearly data points to determine long term GMST rise (as examined in Lewis and Curry (2014) for different beginning and ending periods) or that would be obtained by a Least-Squared-Error (LSE) fit of all data points that are clearly affected by periodic variations in the HadCRUT4 data. Because of the large data scatter in HadCRUT4 data points, this type of "bounding" data fit is easier to

recognize as an accurate long term fit of the warmest years of HadCRUT4 data. Selection of the constant $TCS(1+\beta) = 1.8C$ that provides an accurate “best fit” to the HadCRUT4 data provides the validation of the TRCS Climate Model presented in eq. (1). The equation was rigorously derived from first principles and agrees with the available 165 years of data on atmospheric CO₂ concentrations and earth surface temperature. Therefore, we claim this is a validated climate model suitable for forecasting GMST change as a function of atmospheric CO₂ concentration and the type of model that should be used to support public policy decisions.

The future projection of the blue curve also provides a similar temperature bounding curve for the projected CO₂(year) trajectory provided by the green curve in Figure 1.0. The curves with higher values of $TCS(1+\beta)$ can be detected to provide too much CO₂ sensitivity, as they begin to rise above the HadCRUT4 data of the most recent years when atmospheric CO₂ concentrations increased to recent higher levels.

This behavior for recent years points out another important observation in Figure 1.0. As atmospheric CO₂ concentrations continue to increase over the next 5 to 10 years, the true sensitivity of GMST increase to atmospheric CO₂ concentration increase, as measured by metrics such as TCR and $TCS(1+\beta)$, will become more readily apparent in plots like this, will help remove excessive uncertainty in current peer-reviewed literature estimates for these sensitivity parameters, and will allow scientists to agree on a more reasonable uncertainty range to be used in policy decisions. The excessive uncertainty in CO₂ climate sensitivity employed in current SCC calculations has driven the computed statistical SCC “expected values” to unreasonably large values that have much more to do with politically driven speculation than rigorous science.

2.3 Forecasting GMST Change AND SCC with the TRCS Climate Model

The somewhat conservative bound for GHG-driven warming for the remainder of this century, provided by the blue curve of Figure 1.0, projects GMST will not increase more than 1C above recent levels by 2100. Our RCP6.0 emissions scenario on which this projection is based, is constrained by current official US Government EIA data regarding currently estimated world-wide reserves of coal, oil and natural gas. Coal is by far the major driver of CO₂ emissions in this scenario and EIA world-wide coal reserves estimates vary by a factor of 3 from low to high estimates. We have used the highest of these estimates to construct the RCP6.0 scenario. However, current trends in Europe have coal mines being closed with less than 20 percent of their reserves included in the high EIA world-wide reserves estimates ever being recovered. Lending even more confidence to realism of this RCP6.0 scenario, are two independent 25 year forecasts for world-wide energy consumption published in 2015 by Exxon Mobil and BP. We converted their similar estimates for growth in fossil fuel consumption over the next 25 years to future yearly increases in atmospheric CO₂ concentration and obtained the same 460 ppm CO₂ concentration for 2040 predicted by this RCP6.0 scenario. We

believe that energy consumption forecasts by such large energy companies with large capital spending decisions based on these forecasts, are much more likely to be accurate than the speculative emissions scenarios developed by international academics in the peer-reviewed literature that are unconstrained by actual data on world-wide fossil fuel reserves.

The validated TRCS Climate Model and RCP6.0 emissions scenario provide a maximum 1C temperature rise above current levels by 2100. According to the 2010 SCC TSD Figure 1A reproduced here as Figure 2.0, the effects of a 1C temperature increase by 2100 as computed by the current Integrated Assessment Models, is either beneficial or neutral.

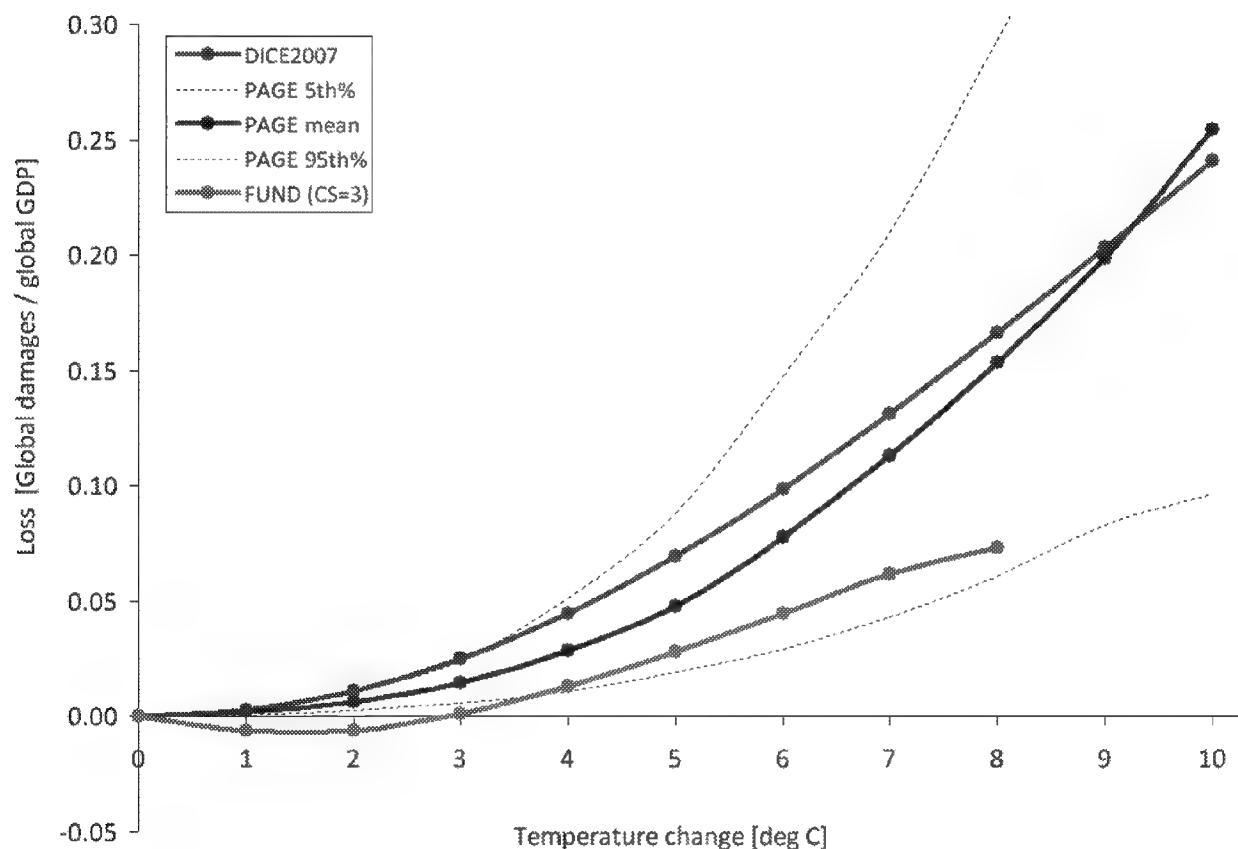


Figure 2.0 Effects of temperature change in 2100 on as computed by IAMs

These results for temperature rise forecast based on the validated TRCS Climate Model and RCP6.0 emissions scenario, constrained by official US Government EIA data, contrast with the much higher and speculative values for SCC the EPA has used to justify its CO2 emissions regulations. These results clearly demonstrate that the SCC calculation process needs an in-depth review and critique by a scientific review board

with members selected from broad fields of science and mathematics and without conflicts of interest.

2.4 ESTIMATING TCS FROM $TCS(1+\beta) = 1.8C$

Using $TCS(1+\beta) = 1.8C$ as determined from Figure 1.0 and an average historical value for $\beta = 0.5$ determined from IPCC AR5 Report data, TCS is estimated to be $1.2C$ and is close to TCR values published in other recent peer reviewed published literature where the TCR estimates are based on actual climate data, not climate simulation models. See for example, Ring et. al. (2012), Otto et. al. (2013) and Lewis and Curry (2014). Even though this TCS estimate has considerable uncertainty because of the uncertainty in β , we only compute it to compare with values published in the peer-reviewed literature. As shown in Figure 1.0, with the assumption that β will continue to hold to its historical value of the last 165 years (whatever that somewhat uncertain value actually is), an accurate GMST projection to 2100 and beyond for any proposed $CO_2(\text{year})$ projection can be made using the constant, $TCS(1+\beta) = 1.8C$, that does not have the uncertainty attached to β .

Based on the results of Figure 1.0 where a value of $TCS(1+\beta) = 2.0C$, only 11.1 percent higher than $1.8C$, causes equation (1) to begin to noticeably deviate from actual temperature data, we do not believe use of extremely large uncertainty in earth surface temperature sensitivity to atmospheric GHG concentration, as employed in the Interagency Working Group (IWG) SCC calculations, is scientifically justified. This will be discussed in greater detail in the following section of this report.

While the long-term GMST projections to 2100 and beyond are impossible to make precisely, the key conclusion from a conservative bounding approach employed in our analysis, is that we do not have a rapidly developing climate problem requiring swift corrective action. We have time to study this issue in a more disciplined manner and to develop a true broad-based scientific position with minimal uncertainty, regarding GMST sensitivity to atmospheric GHG concentrations, before trying to take risky and ineffective unilateral GHG emission control actions based on a far-too-incomplete scientific and economic impact understanding of the issue. As mentioned above, the next 5 to 10 years of atmospheric GHG and GMST data should allow the US scientific community to agree on a much-needed reduction in uncertainty regarding GMST sensitivity to atmospheric GHG concentrations for use in public policy decisions regarding GHG emissions.

3.0 SCIENTIFIC CRITIQUE OF THE SCC CALCULATION METHODOLOGY

The current Monte Carlo calculation process for SCC as described by the three Technical Support Documents (TSD) the IWG has published to document the process, is overly complex, highly speculative, and hides from critical review key important variables that could be used to assess the reasonableness of the results. There are numerous serious issues with lack of model validation required for use in public policy decisions for the various models used in the SCC calculation.

3.1 Un-validated Integrated Assessment Models

First, the Integrated Assessment Models (IAMs) used to calculate benefits and damages of CO₂ emissions are clearly not validated, as they yield widely differing SCC values for the same assumed GMST vs. time and atmospheric GHG vs. time histories used to drive all IAMs as shown in Figure 2.0. The IWG deals with this issue by averaging the different SCC calculations of the three different IAMs and using the averaged result to guide policy decisions. Averaging widely varying results from models whose authors claim compute the same SCC metric, cannot provide a safe and reliable approach for serious public policy decisions with potentially severe unintended consequences. This practice can be compared to computing the structural strength of a commercial airplane wing with three different models that give widely varying results and then averaging the results to determine if the wing strength satisfies Federal Aviation Administration (FAA) wing strength requirements. Who would feel safe as a passenger on this airplane? By what rationale did the Dept. of Transportation (DoT) representatives to the Interagency Working Group (IWG) that developed the SCC computation process concur with this decision? Did they represent the position of the DoT's FAA that the public trusts for ensuring safety of airline travel with FAA imposed regulations? We have no further comment on the lack of rigor on the benefit and damage calculation aspects of the IAMs and will leave this critique to others who we know have studied these issues in more detail.

3.2 Un-Validated GCMs Used to Calculate ECS Uncertainty

We have major concerns regarding the “front end” assumptions and statistical calculations in the IAMs that compute GMST vs. time for 300 years into the future. In each IAM, the benefits and damages are computed for 10,000 different trajectories of GMST vs. year and GHG emissions vs. year for 300 years into the future. Each of these 10,000 samples of GMST vs. time trajectories are determined from a random sample of key parameters from two different statistical distributions. The first key statistically treated parameter is Equilibrium Climate Sensitivity (ECS) that is a CO₂ climate sensitivity metric defined by the UN IPCC as the GMST temperature increase that would eventually occur when a new climate equilibrium is achieved after a sudden doubling of atmospheric CO₂ concentration. Not widely advertised to policy decision makers is that the idealized equilibrium state would not be achieved in more than 1000 years after CO₂ is doubled. The selection of a statistically treated ECS parameter only

provides an endpoint estimate for total GMST rise more than 1000 years into the future. Because of highly speculative processes modeled in climate simulation models to compute ECS after 1000 years or more of climate simulation, ECS has much more uncertainty than TCR or TCS(1+ β) and selection of this metric for the SCC calculation process injects unnecessary uncertainty into the SCC calculation process. The TCR metric is scientifically more appropriate for use in GMST projections in the 300 years horizon.

3.3 Un-validated Model Used to Convert ECS to GMST Vs. Time

The SCC calculation process needs a GMST estimate for each of the next 300 years into the future. The transient temperature increase in the first 300 years after a sudden CO₂ doubling, as simulated in GCM ECS simulations, is nothing at all like the transient temperature increase that occurs from the actual slowly rising CO₂ concentration. The undisclosed method(s) used in IAMs to compute GMST vs. time from the statistically selected ECS and emission scenarios need to be reviewed in detail to determine their validation status. We propose from a scientific viewpoint, that our validated TRCS Climate Model compared to actual data in Figure 1.0, is much better suited for computing a projection of GMST vs. time for a selected emissions and GHG concentration scenario.

3.4 Speculative ECS Statistical Distribution Used to Compute SCC

The scientific reasoning used by the IWG to establish the ECS statistical distribution it assumed for ECS is highly suspect. This statistical distribution decision started with the UN IPCC publication of its 2007 AR4 Report that gave the uncertainty range for ECS as,

$$2 < \text{ECS} < 4.5\text{C}$$

This ECS uncertainty range was based on climate simulation results of 18 different un-validated climate simulation models from various international organizations studied for the AR4 Report, and certainly does not represent the best science that US scientists can contribute to this issue. The climate science publications through about 2004 were used to compile this AR4 report and are now more than 10 years old in this rapidly developing field of science. The more recent 2013 IPCC AR5 Report lowered the lower end of this ECS uncertainty range to 1.5C and stated that information from multiple lines of evidence prevented it from reaching any conclusions regarding the mean value of this range. If a mean value for ECS cannot be supported by the current state of climate science, how can one claim scientific validity for the much more detailed statistical distribution for ECS that is a primary driver of the SCC calculation process? The currently computed SCC are no more believable than wild speculation! How can the EPA defend its decision to ignore the potential serious damage to the US economy and

risks to the US electrical power grid on the basis of such frivolous and speculative computations?

The IWG decided to use the highly uncertain ECS metric for public policy decision-making even though the same AR4 Report noted that the much less uncertain TCR metric would be more appropriate to use for near term GMST projections. But, the next decision made by the IWG when the AR5 Report scientists said they couldn't even comment on a reliable mean value for the ECS uncertainty range needs even more scientific probing. The IWG arbitrarily decided that the statistical distribution it would create for sampling ECS values to compute SCC should have values as high as 10C. This ECS distribution published in the 2010 SCC TSD has 20 percent of the ECS values in the 4.5 - 10C range. Justifying this decision as using caution on the high side of potentially high GMST damages was an arbitrary decision with unnecessary speculation that skewed the statistically computed SCC "expected values" to speculatively high values. The 20 percent probability that ECS would be higher than the upper limit of the published IPCC ECS uncertainty range leads to extremely high damage calculations with a small probability of occurrence that results in an overly high and totally speculative statistically "expected value" for SCC. It appears that the IWG's arbitrary assumptions and questionable decisions to use the highly uncertain ECS metric in an arbitrarily biased statistical distribution with little scientific justification, was orchestrated to get the unnecessarily complex Monte Carlo process to compute the high value of expected SCC that would be needed to justify GHG emissions regulations.

3.5 Obsolete GHG Emission Scenarios Used to Compute SCC

In addition to the statistically sampled CO2 climate sensitivity metric, a GHG emissions scenario for the future that allows calculation of atmospheric CO2, other GHG and aerosol concentrations for each year in the future, is required to compute a future GMST temperature time history. In the SCC calculation process, each of 10,000 samples of statistically calculated benefits and damages in the IAMs begin with a 300 year GMST time history computed from statistical sampling from the highly questionable ECS distribution and a statistical distribution for the emissions scenario. Five widely differing emissions scenarios from the Stanford Energy Modeling Forum exercise, EMF-22, were selected for use in SCC calculations. However, since the IWG put no effort into assessing which of these scenarios might be more relevant and likely than others, they decided to make the statistical distribution from which the 5 scenarios would be sampled, a uniform distribution. That is, the SCC calculation process assumed any one of these widely varying scenarios had an equal probability of occurrence. This is tantamount to concluding "we have no idea what might happen" and we will base our policy decisions on this kind of foolish speculation without true scientific investigation and deliberation. This decision can be compared on a scientific basis to the RCP6.0 scenario our research team developed as a data-driven baseline for what we believe is most likely to happen, and what a realistic GMST time history for the remainder of this century should look like.

Making validity assessments even more difficult for this decision by the IWG to use a uniform distribution for the GHG emissions scenarios was lack of information provided on the details of these scenarios. The 2010 TSD only presented GHG emissions vs. year for the 5 selected scenarios and did not present the atmospheric concentrations of GHG vs. year derived from these emissions scenarios that drive the GMST trajectory. Since SCC is defined in terms of emissions and there is lots of science to be dealt with in the methods used to convert emissions to atmospheric GHG concentrations that cause temperature rise, important related scientific issues were not discussed in the SCC TSDs.

The most information supplied on this issue from the 2010 TSD indicated that 4 of the 5 scenarios used had 2100 atmospheric CO₂ levels ranging from 612 to 889 ppm. These values compare to our RCP6.0 scenario with 585 ppm CO₂ in 2100 and 600 ppm maximum possible by 2130 from burning all currently known fossil fuel reserves on the planet. A key aspect in our development of the RCP6.0 scenario was data analysis that showed since 1980, when accurate data on world-wide fossil fuel production became available, the annual rise in atmospheric CO₂ concentration is a consistent and constant 48 percent of CO₂ emitted from burning the annual production. We assumed all this production was burned in the year produced and we computed the number of CO₂ molecules released into the atmosphere from burning each of the fossil fuel types to determine the 48 percent value in terms of the annual average Mauna Loa CO₂ concentration data. This 48 percent value has stayed constant in 5 year averages of the data, even though CO₂ emissions in recent years were much greater than in 1980. This 48 percent fraction was assumed to stay constant in our projection of a maximum of 600 ppm atmospheric CO₂ concentration when all currently known fossil fuel reserves are consumed. The 5th emissions scenario used in the SCC calculation process, the “550 ppm average” scenario, had much lower emissions than the other 4 scenarios and a 2100 GHG radiative force of only 550 ppm CO₂-equivalent for all GHG. However, since 4 of the 5 scenarios used had radiative forcing higher than our data constrained RCP6.0 scenario, and the 5 scenarios were sampled with a uniform probability of occurrence, the expected value computed for SCC would be higher than if our RCP6.0 scenario were used and that is constrained by official US Government EIA published maximum estimated world-wide fossil fuel reserves data.

3.6 Applying “Sanity Checks” to the SCC Calculation Process

The intent of the US Congress that only validated models should be used for public policy decision-making by regulating agencies was egregiously violated when the IWG decided to use its totally “made-up” and highly speculative statistical distribution for ECS together with un-validated GHG emissions scenarios as key drivers of the SCC calculation process. Moreover, the TSDs describing the SCC calculation process never revealed key process output that could be used to assess the validity of the methodology. For example, no output was provided for interim steps of the process that

would reveal GMST vs. time trajectories that could be assessed for reasonableness against actual GMST data.

Also not presented as a “sanity check” on the results, were statistics on atmospheric CO₂ and other GHG and aerosol concentrations vs. time that could be compared to actual data trends. Much of the current SCC damage results from projected sea level rise, but nothing was disclosed in SCC TSDs regarding model output statistics of sea level rise rates and whether they were reasonable compared to available data as reviewed by Möner (2016). A reasonable sanity check on the ECS and sea level rise aspects of the process, would be to:

1. Use the median of the IPCC AR5 atmospheric and aerosol GHG concentration history and radiative forcing from 1850 through 2015 as a test emissions scenario.
2. Start the GMST prediction process in 1850 using the AR5 median estimate for the past atmospheric GHG history compare the IAM output statistics to actual GMST and sea level rise trends since 1850

If there is a high temperature/high damage bias in the current SCC calculation process as suggested based on our independent assessment, it will be evident in this reasonable check that should be made for something as serious as public policy decisions with potentially severe adverse consequences for the entire US population.

3.7 More Research Needed on GHG Emissions Scenarios

The emissions scenario aspect of the current SCC calculations needs a more in-depth scientific review and determination for what should be used in this critical step of the process for determining true cost/benefits of not regulating GHG emissions or specific proposed GHG emissions regulations. Four of the the emissions scenarios used in the current SCC calculation process are “business as usual” scenarios, but all have higher atmospheric CO₂ concentrations in 2100 than our RCP6.0 scenario. The only updated emissions scenario published in the 2013 AR5 Report that does not assume some level of world-wide GHG emissions controls will be implemented, has an RCP8.5 rating indicating its radiative forcing will be $8.5/6.0 = 1.42$ times our RCP6.0 scenario in 2100. RCP8.5 is similar to the highest emissions scenario, MERGE Optimistic, used in the current SCC calculation. All published information regarding the RCP8.5 scenario indicate it was created to represent a 90th percentile high emissions scenario; it is not constrained in any way by current estimates or discovery trends in world-wide fossil fuel reserves.

We propose our RCP6.0 scenario as a baseline for discussion for the most likely scenario that would represent future atmospheric CO₂ level trends if no world-wide CO₂ emission controls are enforced. We believe our RCP6.0 scenario could be improved through a study of EIA data that would correlate annual increases in world-wide fossil fuel reserves estimates to annual world-wide fossil fuel production. This study would be used to perform a data-constrained estimate of how EIA estimates of total world-wide

fossil fuel reserves would trend for the future and how much our 600 ppm maximum atmospheric CO₂ concentration from burning fossil fuels could be increased.

3.8 Detailed Assessment Needed for Economic Impacts of Clean Power Plan

Given the potentially severe economic impacts to the coal industry and US electrical power generation industry depending on coal fired power plants, it seems prudent that EPA should be required to perform a more in-depth assessment of economic impacts of its proposed Clean Power Plan than can be gleaned from the current highly uncertain, and we believe high-biased, SCC values. The specific economic impact arguments are being developed through lawsuits against the EPA by states and companies affected by the proposed Clean Power Plan regulations, while it appears that the EPA has not performed the serious scientific and economic analyses Congress expects for justifying new regulations.

3.9 Need to Remove Uncertainty from Climate Projections

While the long-term GMST projections to 2100 and beyond are impossible to make precisely, the key conclusion from a conservative bounding approach employed in our analysis, is that we do not have a rapidly developing climate problem requiring swift corrective action. We have time to study this issue in a more disciplined and focused research manner with the goal of developing a true broad-based scientific position with minimal uncertainty, regarding possible GMST rise due to GHG emissions in the future. This broadly based scientific position of the US scientific community is required before our government tries to take risky and ineffective unilateral GHG emission control actions based on a far-too-incomplete scientific and economic impact understanding of the issue.

4.0 NEED FOR VALIDATED MODELS TO SUPPORT PUBLIC POLICY DECISIONS

We believe the key mistake that has been made in climate research funded by the US government so far, is that too many studies with un-validated models have been funded. In our experience with manned space exploration, such extremely complex and un-validated models cannot be believed for any rational public policy decision-making with potentially severe unintended consequences. There is no true scientific information, consistent with The Scientific Method, to be learned from such poorly allocated research funding. We observe that overly complex and un-validated models are being used to estimate important climate change metrics such as TCR and Equilibrium Climate Sensitivity (ECS), when much more accurate metrics, without uncertainty added by un-validated models, can be determined more directly from climate data, as we and several other researchers have done. The data indicate low climate sensitivity to atmospheric CO₂. All other un-validated model determinations of climate sensitivity that result in much higher CO₂ climate sensitivity uncertainty estimates published by the IPCC, are

worthless speculation and should not be used in decision-making with potentially severe unintended consequences.

A basic flaw in the current Federal government response to the AGW threat is that climate scientists are basing their concerns on complex, un-validated climate simulation model results, rather than using available data in a more scientifically based assessment of the threat. NASA has strict policies documented in NASA-STD-7009 against the use of un-validated models for design or operational decisions regarding human safety. We believe the national assets represented by NASA and the US military regarding decision making for mitigation of threats should be employed by the US government to deal with the AGW concern.

5.0 NEED FOR DISCIPLINED ROOT CAUSE ANALYSIS AND DECISION-MAKING

In dealing with safety related threats in the manned space program, we use disciplined processes to define Problems in terms of parameter deviations outside of normal or safe limits. We analyze and prove root cause(s) of Problems by analyzing the specific data of the Problem definition and specifications in terms of What?, Where?, When? and How Much? these deviations occur, as well as answers to these same questions related to similar situations where deviations don't occur. The entire anthropogenic global warming (AGW) "Problem" the EPA has been trying to mitigate with GHG emissions regulations, is not a Problem for which root cause can currently be determined, within our strict Problem definition, as GMST has not deviated beyond the normal range of the last 10,000 years that had nothing to do with GHG emissions. What we have is a Potential Problem or AGW threat that we should, as a nation formally address, but this threat is developing slowly enough that a more rational government response to the threat would be to focus near term research on removing excessive and unnecessary scientific uncertainty regarding magnitude and timing of the threat.

If disciplined Problem Solving and Decision-Making processes were used at the EPA as they are in other agencies focused on scientific matters, the EPA would need to define environmental Problems in terms of metrics that define deviations in harmful substance concentrations outside of well-established safe limits. They need to demonstrate their knowledge of the science that defines safe limits. Once these limits are established, they need to determine true root cause(s) for the deviations beyond safe limits. The EPA should develop a broad array of options that could be considered to mitigate the defined problem. Imposing new regulations might represent several possible options with varying degrees of effectivity and economic costs, but these may not be the optimal actions for the government to take considering cost, schedule and effectiveness of all options identified and evaluated. The EPA should not take the view that its charter is to impose new regulations. Instead, the EPA should assess environmental concerns, determine root cause of Problems and recommend to our federal government the optimal solution the government should take to resolve the issue.

Our research team has investigated the scientific arguments on either side of the complex climate issues leading to the EPA Endangerment Finding regarding GHG emissions, as well as the scientific work and documentation of the Interagency Working Group (IWG) and the EPA in Technical Support Documents (TSD) describing computation of the Social Cost of Carbon (SCC) metric. The EPA and other regulating agencies use SCC to represent a cost/benefit analysis of specific regulations aimed to reduce GHG emissions. We find the scientific work by the IWG and EPA on these issues to be extremely poor and dangerously inadequate, given the possible severe economic damage to the US economy and US citizens from EPA regulations being justified by the current SCC metric. We have previously expressed our concerns and specific scientific issues regarding the SCC computation assumptions and methodology in Office of Management and Budget (OMB) and EPA official calls for public comment on the SCC issue, and proposed regulations economically justified to Congress with the current SCC values. We have had no response to our serious, legitimate concerns that are summarized once again, in this report. This part of the public comment process intended by Congress to be somewhat of a check on unbridled authority of the EPA seems to be dysfunctional.

We observe that Congress has granted the EPA extremely vast power to create regulations that can have severe negative consequences for US companies and citizens. This power has vastly increased in scope, certainly far beyond what Congress intended with its passage of the Clean Air Act, through activist moves by the Executive and Judicial branches of government, that remain unchecked by the US Congress. The US Congress needs to rectify usurpation of power by the EPA through its implementation of ideological political agendas of the Executive Branch, and through Supreme Court decisions upholding EPA's interpretation of power granted to it by the Clean Air Act. This will require longer term legislative action if Congress disagrees, as we do, with EPA claims upheld by the US Supreme Court, that CO₂ is a pollutant in the sense Congress intended to define pollution in the Clean Air Act.

It is scientifically embarrassing to our team of experienced and accomplished Apollo Program scientists and engineers, that our government could officially declare that CO₂ is a "pollutant" that needs to be regulated. CO₂ is a colorless, odorless, non-toxic, trace gas in our atmosphere, essential to sustain all plant and animal life on this planet. Available data indicate that burning all fossil fuel reserves on the planet could only create an atmospheric CO₂ concentration less than 10 percent of previous 7000 ppm naturally occurring levels experienced in our planet's history. At the last glacial maxima about 21,000 years ago, our planet came dangerously close through natural processes that reduce atmospheric CO₂ levels, to the 150 ppm critical point where plant life cannot grow. This would have truly represented a climate disaster for our planet. Fortunately, increased atmospheric CO₂ levels from natural warming out of the last glacial maximum, and perhaps some additional amount returned to the atmosphere previously sequestered in fossil fuels, has moved us away from the brink of a clear climate disaster due to too little atmospheric CO₂ concentration. An optimal level of atmospheric CO₂

concentration has not been scientifically established, considering all factors. We allow more than 10 times the current 400 ppm atmospheric concentration of CO₂ on our International Space Station with no concerns for astronaut safety.

By upholding the EPA's Endangerment Finding, the Court has agreed that the EPA has authority to regulate CO₂ emissions. The US Supreme Court does not have the scientific expertise to understand and adjudicate complex scientific matters. More appropriately, this should be the responsibility of scientific review boards, with membership from a broad spectrum of scientific expertise and experience selected by Congressional oversight to be free of any conflicts of interest. As pointed out in above discussions of this report, the EPA has demonstrated its lack of scientific expertise in the method it selected to compute SCC to justify the cost/benefits of its GHG emissions regulations, and has been scientifically irresponsible in its decisions to regulate this critical chemical compound without due regard for potential unintended consequences.

The scientific arguments used by the EPA to classify CO₂ as a pollutant in its famous Endangerment Finding allowed by the US Supreme Court, need to be reviewed by an independent scientific review board composed of a broad range of US scientific, engineering and mathematical expertise, and whose members are carefully vetted for potential conflicts of interest.

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APPENDIX A

DERIVATION OF THE TRCS CLIMATE MODEL

A1.0 ENERGY BALANCE OF THE EARTH CLIMATE SYSTEM

A1.1 Kiehl-Trenberth Energy Transport Diagrams

Figure A-1.0, adapted from Trenberth et. al. (2009), shows a diagram of the power in W/m^2 of the spherical earth surface area entering and leaving the Earth's climate system, and the various heat transport mechanisms of the Earth's surface and atmosphere that affect earth surface temperature. Kiehl and Trenberth introduced such energy flow diagrams in 1997 and have continued to update them as more data have become available.

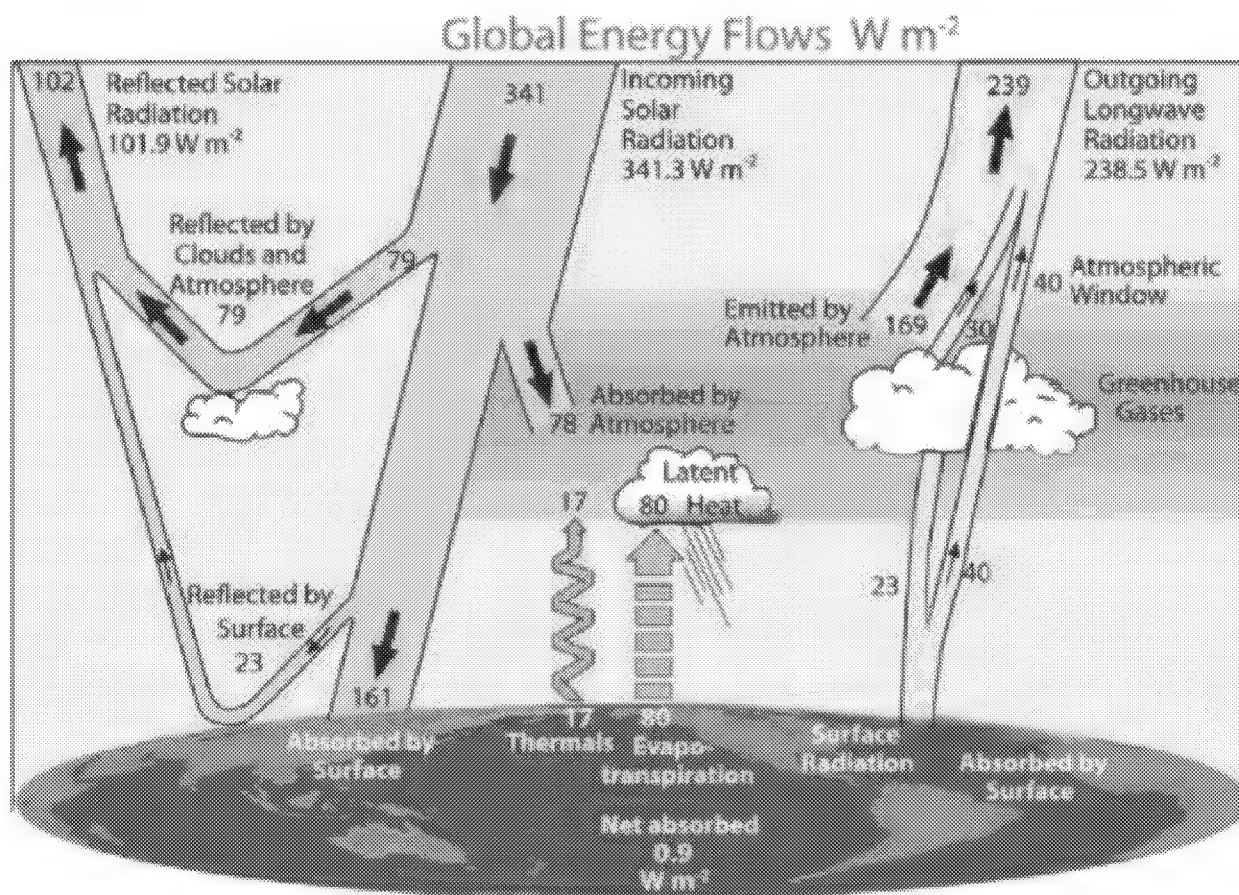


Figure A-1.0 Annual average instantaneous global energy flows

This diagram was updated in Trenberth et. al. (2009) based on satellite measurements for incoming and outgoing radiation at the Top of the Atmosphere (TOA) as explained in

detail in the referenced article. The only modification to this figure originally presented by the authors was to simplify it to show only the net power radiated from the surface and to delete the large 333 W/m^2 radiated in opposing directions between the surface and atmosphere. Although climate scientists prefer to show the energy radiated to the surface by the atmosphere because the atmosphere contains “heat trapping” GHG, this unnecessarily complicates the essential physics of radiation heat transfer leaving the surface and atmosphere and flowing to deep space that needs to be analyzed.

In engineering practice, when two surfaces at different temperature, such as the earth’s surface and a cooler surface within the atmosphere, have a radiation exchange, it is common practice to only examine the net energy radiated out beyond the cooler body and to ignore the equal and opposite radiation exchanges between the warmer and cooler body. Also, provided in Fig. A-1.0 are annual average values for continuous rates of energy flow transported by these mechanisms based on measured data. Many diagrams such as Figure A-1.0 appear in climate science literature with only small variations of the numerical values appearing in various technical publications. These energy transport rates are generally accepted by the entire climate science community and for purposes used herein, we will use the values provided in Figure A-1.0

A1.2 Problems with General Circulation Models (GCM) Used in Climate Science

General Circulation Models (GCMs) used for studies in most climate science publications attempt to model in a forward time simulation the variations in all the complex chemistry and physics governing processes in Figure A-1.0 within the oceans, land masses and atmosphere, as well as exchanges between the oceans, land and atmosphere that affect all the energy transport quantities. They attempt to model how increasing concentrations of GHG in the atmosphere will affect these heat transport variables over periods of thousands of years. Many publications in climate science present computed results of these very complex, but un-validated, models that are of questionable scientific value as they don’t adhere to principles of The Scientific Method that would require that the model be validated with physical data. From a scientific viewpoint, climate change is an extremely difficult problem to simulate with accuracy and thus far GCMs have not been developed to the point where they can be validated by actual climate data. Fortunately, GCMs are not the only way that science can determine the effects of atmospheric GHG on earth surface temperature changes. This can be accomplished with greater accuracy and certainty, through analysis of available data as will be demonstrated herein.

An obvious problem with the GCM climate simulation approach is revealed in Figure A-1.0 where just one very complex problem to simulate accurately is the approximate 80 W/m^2 of latent heat transported from the surface to colder levels of the atmosphere by water evaporation and condensation cycles. Water covers 71 percent of the earth’s surface and water evaporation is a complex phenomenon to simulate accurately, as it is

a function of water temperature, relative humidity of the few inch thickness of air exchanging water vapor with the water surface, relative humidity of higher layers of the atmosphere, surface winds, water surface roughness, water droplets launched into the less humid layers of air by rough seas, etc. A popular simulation attempted by GCMs is to compute the increase in surface temperature caused by a doubling of CO₂ concentration in the atmosphere. CO₂ molecules constitute only about 0.04 percent of all molecules in our atmosphere, most often expressed as 400 ppmv (parts per million by volume, and also abbreviated by ppm). The basic quantum physics modeled in infrared radiation absorbed and re-radiated by GHG molecules indicates a 3.71 W/m² reduction in infrared energy leaving the TOA by doubling atmospheric CO₂ concentration, before effects of other possible related climate changes (feedbacks) are considered. The GCMs attempt to compute how radiation heat transfer within the atmosphere out to deep space is affected by the change in atmospheric CO₂ concentration, as well as other climate feedbacks that may also affect earth surface temperature due to change in the CO₂ trace gas in our atmosphere. But to detect this effect in simulation results on earth surface temperature, an accurate simulation of all other heat transport mechanisms shown in Figure A-1.0 affecting earth surface temperature, plus others within the earth's oceans is required. To the extent that natural processes are not well-understood or cannot be simulated accurately, the effects of doubling CO₂ cannot be determined accurately by GCMs.

For example, only a 5 percent simulated error of 4 W/m² in how the latent heat transfer of 80 W/m² will change during the time the CO₂ concentration doubles, would affect computed earth surface temperature as much as the expected change from doubling CO₂ concentration. At current rates of CO₂ concentration increase in our atmosphere, it will take about 230 years to double the 1850 CO₂ concentration. In our experience with such complex models, GCMs cannot be expected to compute so many complex processes with less than 5 percent error in any of these energy transport mechanisms over a 230 year period required to compute our TCS = TCR metric, much less the more than 1000 years required to compute the ECS metric.

The widely varying numerical results from such GCMs are being used in the climate science literature and by the IWG and EPA to be indicative of the uncertainty in the TCR and ECS metrics. This kind of un-scientific uncertainty is being injected into public policy decisions at the EPA with potentially severe adverse consequences for our nation, if the wrong decision is made on either side of the AGW issue. The inability of climate scientists to reduce their factor of 3 uncertainty in the ECS metric in more than 35 years of study, is clear evidence that a new approach, devoid of un-validated GCM influences, is needed for public policy purposes. If only an accurate measure of how Global Mean Surface Temperature (GMST) will change with changes in atmospheric CO₂ concentration to compute SCC, as is the case for current SCC calculations, then there are much simpler models with much less uncertainty in computed results that can and should be used for this purpose. Moreover, these simpler models can be validated

by climate data and are well-suited for use in public policy decision-making. We demonstrate the derivation and validation of one such model herein.

A1.3 A Data-Driven Approach for Determining CO2 Climate Sensitivity

We will herein demonstrate the rigorous derivation and validation of a much simpler modeling approach based on well-known Laws of Physics, and constrained by available data, that provides a much more accurate and less uncertain value for the TCS = TCR metric that is best suited for public policy decisions. Other researchers such as Ring et. al. (2012), Otto et. al. (2013), Lewis and Curry (2014) and Lewis (2016) and several others have demonstrated independent, but related data constrained models that can estimate both TCR = TCS and ECS metrics, and have close agreement with our model that determines TCS. Uncertainty in ECS is primarily associated with sparse data available required to determine more precisely variations in the 0.9 W/m^2 value in Figure A-1.0 for surface heat that is transported to the deep ocean and may be expected to be recovered at the surface in 1000 years or more. The transient climate sensitivity metrics of TCS and TCR are not affected by this poorly known value and, we submit, are much better suited than ECS for forecasting GMST in a 300 year horizon, as required in the SCC calculation.

A2.0 USING FIRST PRINCIPLES TO OBTAIN SIMPLE HIGH-CONFIDENCE MODELS

The First Law of Thermodynamics, that is a statement of the Conservation of Energy, requires that the difference between incoming and outgoing energy flows of a system as shown in Figure A-1.0 results in a change in internal energy of the system, as measured by internal temperature of the system. The average annual temperature of the earth's surface, also referred to as GMST, varies very little because of a powerful temperature regulating mechanism resulting from the Stefan-Boltzmann (SB) Law that determines energy radiated from the surface of a body that is a function of the surface absolute temperature raised to the 4th power,

$$(\text{Radiation Heat Transfer}) = Ae\sigma T^4 \quad \text{Watts (W)}$$

$$(\text{Radiation Heat Transfer})/A = e\sigma T^4 \quad \text{W/m}^2$$

where

A = radiation surface area, m^2

e = emissivity constant for specific surface characteristics and coatings

σ = Stefan-Boltzmann Constant = $5.67(10)^{-8} \text{ W/m}^2/\text{K}^4$

T = absolute temperature of the radiating surface, deg Kelvin (K)

This sensitive T^4 relationship provides a strong and smoothly continuous heat transport feedback mechanism for surface temperature control. The maximum local surface radiation heat transport to deep space occurs during daylight hours when local surface temperature is highest, but this heat transport process continues through the night time hours at reduced rates of heat transfer, as the surface temperature cools from outgoing radiation heat transfer, before surface re-heating during the next daylight period.

The climate model developed herein will use these basic Laws of Physics to quantify how yearly average changes in key system parameters are related to GMST change. The basic theory for how atmospheric Greenhouse Gases (GHG) can warm the earth's surface results in a lower rate of energy (power) being radiated to deep space by a given earth surface temperature. In engineering practice, this kind of decrease in radiated energy from a surface is modeled as a decrease in emissivity that can be measured, in lieu of the much more difficult and uncertain task of computing this emissivity decrease from models as GCMs attempt to do.

A2.1 Earth Surface Energy Balance Model

Note in Fig. A-1.0 at the TOA, the energy balance obtained by:

Short wave radiation in - Short wave radiation reflected = long wave radiation leaving

$$341 \text{ W/m}^2 - 102 \text{ W/m}^2 = 239 \text{ W/m}^2$$

This rough calculation ignores a small amount of energy transported from the surface to the cold deep oceans that should be recovered at the surface in some future state of equilibrium of incoming and outgoing radiation and earth surface and atmospheric temperatures.

A closer examination of values presented in Fig. A-1.0 for all energy transport quantities, reveals that currently, a small rate of heat energy ($Q = 0.9 \text{ W/m}^2$) is absorbed by the Earth's surface and transported to the deep cold ocean without being radiated back to space.

A 1000 mile arc of the Earth's surface and the top of the Stratosphere 14 miles above the surface are shown approximately to scale in Fig. A-1.1, revealing the very thin layer of the atmosphere that provides a very complex alteration of IR energy radiated from the earth's surface. GCMs spend much of their effort trying to simulate what happens in the

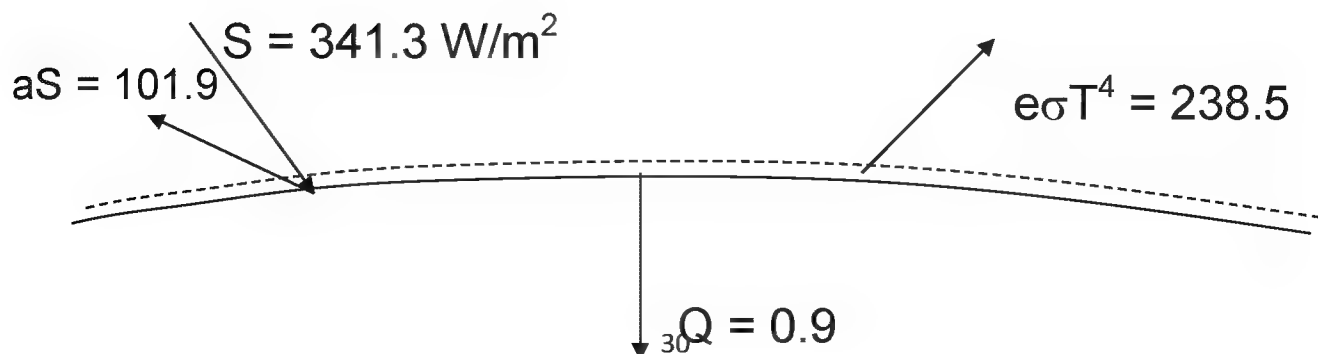


Figure A-1.1 Energy balance of the earth surface and atmosphere to top of Stratosphere

thin atmosphere region between the surface and top of the Stratosphere. But this is totally unnecessary to determine earth surface temperature sensitivity to atmospheric GHG and aerosol concentrations because relatively accurate measurements can be made to determine this sensitivity. Only simple models based on first principles are needed to reduce the data to determine this sensitivity relationship.

Fig. A-1.1 is a simplification of Figure A-1.0 showing only energy flows into and out of a different control volume (climate system) boundary defined by the Earth's surface and the top of the Stratosphere indicated by the dashed line. The GHG in the small thickness of the atmosphere below the top of the Stratosphere affects these energy flows. Once the IR radiated from the surface and absorbed and re-radiated by gases in the relatively thin thickness of atmosphere reaches the top of the Stratosphere, it is radiated out to deep space (238.5 W/m^2 in Fig. A-1.1) without being absorbed by GHG higher in the atmosphere. There is essentially no water vapor above the top of the Troposphere, ranging from 12 miles above the surface in the tropics to only 4.3 miles above the surface at the poles in winter. But there is still enough air density and well-mixed GHG in the Stratosphere to absorb and re-radiate IR trying to escape to deep space. However, there is only about 2 percent of the mass of the atmosphere located above the nominal 22 km (13.7 miles) altitude of the top of the Stratosphere, and the density of GHG molecules above the Stratosphere is too small to absorb and re-radiate significant amounts of IR escaping from the top of the Stratosphere. Therefore, it is the relatively thin thickness of the atmosphere up to 14 miles altitude that affects earth surface emissivity for surface IR energy radiation to deep space.

Drawing this new climate system boundary at the earth's surface changes the power balance equation above so that the rate of energy being absorbed within this climate system only applies to the atmosphere up to the 14 miles altitude. Because the heat storage capacity of the atmosphere is much, much less than the earth and its oceans, any rate of heat storage in the atmosphere can be ignored compared to the nominal 0.9 W/m^2 being stored below the earth's surface. Therefore, for this alternate definition of a climate system, we can assume a balance of heat flow entering and leaving the system defined within boundaries of the earth surface and top of the Stratosphere in Fig. A-1.1. We idealize this part of the atmosphere as a thin coating on the surface that affects the emissivity of the Earth's surface as a function of GHG and aerosol concentrations in the atmosphere. This allows us to write the SB equation for earth surface temperature in the power balance equation as:

$$e(W, C, G)\sigma T^4 = (1 - a)S - Q \quad (\text{A-1})$$

where,

emissivity (e) of the earth's surface, including atmospheric effects, is assumed to be a function of atmospheric concentrations of water vapor (W), carbon dioxide (C) and other well-mixed GHG and aerosols (G).

a = effective albedo of earth surface and atmosphere reflecting incoming short wave radiation back to deep space = $101.9/341.3 = 0.2986$

σ = the Stefan-Boltzmann constant = $5.67(10)^{-8} \text{ W/m}^2/\text{K}^4$

T = Global Mean Surface Temperature GMST, deg, K

In the case of water vapor concentration in eq. (A-1), as in most complex climate simulation models, we will assume that the change in atmospheric water vapor concentration, W, is due only to atmospheric warming or cooling caused by changes in C and G. With this assumption, eq. (1) can be written as

$$e(W(C,G), C, G)\sigma T^4 = (1 - a)S - Q \quad (\text{A-2})$$

From the measured outgoing average IR = 238.5 W/m^2 and a current value for T = 288K, the current global mean emissivity of the Earth's surface including atmospheric effects can be computed from:

Outgoing long wave IR to deep space = $e\sigma T^4 = 238.5 \text{ W/m}^2$

$$e = 238.5/[\sigma(288)^4] = 0.611 \quad (\text{A-3})$$

A2.2 Changes in The Earth Surface Energy Balance

If we take a total differential of the power balance equation (2), we obtain an equation that describes the relationship between changes in all variables, including GMST change, dT.

$$\left[\left(\frac{\partial e}{\partial W} \frac{\partial W}{\partial C} + \frac{\partial e}{\partial C}\right)dC + \left(\frac{\partial e}{\partial W} \frac{\partial W}{\partial G} + \frac{\partial e}{\partial G}\right)dG\right]\sigma T^4 + 4e(W,C,G)\sigma T^3 dT = (1-a)dS - Sda - dQ$$

$$dT = \left[1/(4e\sigma T^3)\right]\left\{-\left[\left(\frac{\partial e}{\partial W} \frac{\partial W}{\partial C} + \frac{\partial e}{\partial C}\right)dC + \left(\frac{\partial e}{\partial W} \frac{\partial W}{\partial G} + \frac{\partial e}{\partial G}\right)dG\right]\sigma T^4 + (1-a)dS - Sda - dQ\right\} \quad (\text{A-4})$$

$$= \lambda\left\{-\left[\left(\frac{\partial e}{\partial W} \frac{\partial W}{\partial C} + \frac{\partial e}{\partial C}\right)dC + \left(\frac{\partial e}{\partial W} \frac{\partial W}{\partial G} + \frac{\partial e}{\partial G}\right)dG\right]\sigma T^4 + (1-a)dS - Sda - dQ\right\} \quad (\text{A-5})$$

The terms in { } in eq. (A-5) are called radiative forcing terms in climate science that cause changes in T, denoted by dT, due to independent variations in all variables on the right hand side (RHS) of eq. (A-5). The terms involving changes in W due to changes in C and G are called "water vapor" feedback effects due to changes in C and G.

In most climate science publications, including IPCC Reports, λ , is treated as a constant relating changes in surface temperature due to radiative forcing changes. A value for

λ is typically determined from empirical data relating surface temperature changes to radiative force changes over a certain period of time. Here we recognize from eq. (A-4) that due to consequences of conservation of energy and mathematical manipulation by the rules of differential calculus, λ can be computed from other known quantities as,

$$\lambda = [1/\{4e\sigma T^3\}] = [1/\{(4)(0.611)(5.67)(10)^{-8}(288)^3\}] = 0.302 \text{ K/(W/m}^2\text{)} \quad (\text{A-6})$$

Now, let us examine the partial derivative terms in equation (A-5) and consider their meaning. According to Quantum Mechanics considerations and the ability of GHG to absorb and re-radiate IR emanating from the Earth's surface, increases in atmospheric concentration of C or G should decrease the rate of IR leaving our atmosphere. This is modeled in eq. (A-5) as decreases in emissivity, e , caused by increases in the concentrations represented by C and G. Therefore, the partial derivatives of e multiplying positive GHG concentration changes, dC and dG , have negative values. However, the minus (-) sign in front of these terms from transposing them to the RHS of the equation, and the negative value of the partials, indicate these terms contribute to increases in T (positive radiative forcing) as would also be expected from an increase in T required to offset a decrease in emissivity and maintain a constant heat rejection to deep space.

Note also that the differentials for GHG concentrations in eq. (A-5) multiply the quantity, σT^4 , giving these terms radiative force units of W/m^2 . With reduced emissivity for the earth's surface, the power flow balance equation requires an increase in earth surface temperature to maintain the necessary balance to continue to radiate to deep space, the energy absorbed from the Sun each day that isn't transported to the deep cold oceans.

It is generally accepted by most climate scientists that doubling CO_2 concentration in the atmosphere, will result in 3.4 to 3.71 W/m^2 radiative forcing without the water vapor and other feedback effects. This range of values has been determined by calculations of how the narrow wave length bands for which IR is absorbed and re-radiated by CO_2 molecules in the atmosphere, are affected by greater concentrations of CO_2 . At certain CO_2 concentration levels, all the IR radiated from the surface in certain narrow wave length bands is absorbed and re-radiated. Therefore, further increases in atmospheric CO_2 concentration will not increase absorption of IR radiated from the surface, and the remaining outgoing IR will escape to deep space without further warming of the atmosphere and earth surface.

The overlap of IR absorption bands for water vapor and CO_2 are also considered in computing the IR absorbed in specific common absorption bands by nominal concentrations of water vapor, and considering the additional IR that could be absorbed in the common absorption bands by increases in CO_2 concentration. This "saturation" of IR absorption frequency bands at specific CO_2 concentration levels, results in a radiative forcing function that is logarithmic with respect to increasing concentrations of CO_2 .

Using a conservatively high value of 3.71 W/m² radiative forcing for a doubling of CO₂ concentration, C ppm, the following function for the yearly radiative forcing due to the increasing yearly average value of atmospheric CO₂ concentration, C(year), since 1850 can be written:

$$7) \quad \left[\frac{\partial e}{\partial C} dC(\text{year}) \right] \sigma T^4 = 3.71 \{ \text{LOG}[C(\text{year})/C(1850)] / \text{LOG}[2] \} \text{ W/m}^2 \quad (\text{A-})$$

$$8) \quad \left[\frac{\partial e}{\partial C} dC(\text{year}) \right] \sigma T^4 = 3.71 \{ \text{LOG}[C(\text{year})/284.7] / \text{LOG}[2] \} \text{ W/m}^2 \quad (\text{A-})$$

where 284.7 ppm is the best estimate for atmospheric CO₂ concentration in 1850 determined from East Antarctica Law Dome ice core data published by NOAA. Equation (A-8) shows that when C(year) reaches 569.4 ppm, double the 1850 value of 284.7, then the total radiative force change due to atmospheric CO₂ will be

$$9) \quad 3.71 \{ \text{LOG}[569.4/284.7] / \text{LOG}[2] \} = 3.71 \text{ W/m}^2 \quad (\text{A-})$$

For continued simplicity, and illustrative purposes, we assume that the radiative forcing due to long-lived and well-mixed GHG, other than CO₂, can be modeled with a function that is proportional to CO₂ radiative forcing, as the concentrations of these GHG have also generally increased with increases in population and industrial activity,

$$\left[\frac{\partial e}{\partial G} dG(\text{year}) \right] \sigma T^4 = (\beta) 3.71 \{ \text{LOG}[C(\text{year})/284.7] / \text{LOG}[2] \} \text{ W/m}^2 \quad (\text{A-10})$$

and where the average value for β since 1850, based on IPCC AR5 GHG and aerosol historical data, is about 0.5. Alternatively, we could model the total radiative forcing of other GHG separately, based on their actual measured concentrations each year, or in terms of an equivalent increased concentration of CO₂ that would compute the radiative force of these other GHG. If sufficient data were available, we could also define $\beta(t)$ as a known function of time.

Now let's examine the terms in eq. (A-5) that model the effects of atmospheric water vapor increase due to the effects of increasing concentrations of C and G. We will model this water vapor feedback effect with a parameter, w, that computes the radiative forcing of increased atmospheric water vapor proportional to the combined radiative forcing of CO₂, other well-mixed GHG, and aerosols,

$$\left[\left(\frac{\partial e}{\partial w} \frac{\partial w}{\partial C} \right) dC + \left(\frac{\partial e}{\partial w} \frac{\partial w}{\partial G} \right) dG \right] \sigma T^4 = w(1+\beta)(3.71) \text{LOG}[C(\text{year})/284.7] / \text{LOG}[2] \quad (\text{A-11})$$

In addition to water vapor feedbacks, there may be other climate feedbacks affecting earth surface temperature in response to the radiative forcing of CO₂, other well-mixed GHG, and aerosols. We model the radiative force of these feedbacks that may result from the net of albedo changes caused by aerosol concentrations and other factors as a

fraction, f , of the radiative forcing of CO₂, other well-mixed GHG and aerosol concentrations:

$$\text{Other radiative force feedbacks} = f(1+\beta)(3.71)\text{LOG}[C(\text{year})/284.7]/\text{LOG}[2] \quad (\text{A-12})$$

Substituting equations (A-8), (A-9), (A-11) and (A-12) into eq. (A-5) yields

$$dT(\text{year}) = [0.302]\{(1+w+f)(1+\beta)(3.71)\text{LOG}[C(\text{year})/284.7]/\text{LOG}[2] + (1-a)dS - Sda - dQ\} \dots (\text{A-13})$$

All variables in eq. (A-13) are considered to be annual global average values, although for brevity, this notation was dropped for the a , da , S , dS , and dQ variables.

From eq. (A-13) we note that the temperature change due only to the direct doubling of CO₂ concentration with no response of climate feedbacks can be written,

$$dT_{\text{CO}_2} = [0.302](3.71) = 1.12\text{K}$$

This is a well-known value in climate science given as the direct amount of surface warming that will occur for doubling atmospheric CO₂ levels, without any of the complex feedback mechanisms modeled in very complex climate simulation models.

Using eq. (A-13), we can write a function describing our definition for Transient Climate Sensitivity (TCS) as the annual GMST change resulting from the doubling of atmospheric CO₂ levels by the actual slow yearly increase in atmospheric CO₂ levels, including all climate feedbacks:

$$\text{TCS} = [0.302]\{(1+w+f)(3.71)\} \quad (\text{A-14})$$

This definition for TCS includes the temperature change due to water vapor and all other feedback effects, as represented in the actual temperature data. Using this definition for TCS we can now write eq. (A-15) describing the relationship between annual average values of the independent variables affecting GMST as,

$$dT(\text{year}) = \text{TCS}(1+\beta)\text{LOG}[C(\text{year})/284.7]/\text{LOG}[2] + 0.302\{(1-a)dS - Sda - dQ\} \quad (\text{A-15})$$

where $dT(\text{year})$ is taken to mean the total GMST change since 1850, since that is the reference year for computing radiative force changes of all atmospheric GHG and aerosols.

The change in solar radiation, dS , arriving at the Earth's orbit increased by about 0.4 W/m² from 1850 to 2005. Using a nominally accepted value of $(1-a) = 0.7$ and computing dS for a Total Solar Irradiance (TSI) increase of 0.4 W/m² referenced to the entire surface area of the Earth, as 4 times the circular disc area of the Earth intercepting sunlight:

$$(1-a)dS = (0.7)0.4/4 = 0.07 \text{ W/m}^2$$

Assuming a gradual linear increase in TSI over the time period 1850-2005, we can write for the temperature rise due to the $(1-a)dS$ term in eq. (15),

$$\begin{aligned} 0.302\{[1-a]dS(\text{year})\} &= 0.302\{0.7(0.1)(\text{year}-1850)/(2005-1850) \text{ K} \\ &= 0.021(\text{year}-1850)/(155) \text{ K} \end{aligned}$$

Since the forcing terms due to GHG and TSI are monotonically increasing functions (ignoring much smaller TSI oscillations due to the 11 year sunspot cycle) over the period 1850-2005, we can write a monotonically increasing component of $dT(\text{year})$ as,

$$dT_m(\text{year}) = TCS(1+\beta)\text{LOG}[C(\text{year})/284.7]/\text{LOG}[2] + 0.021(\text{year}-1850)/(155) \quad (\text{A-16})$$

$$dT_m(\text{year}) = TCS(1+\beta)\text{LOG}[C(\text{year})/284.7]/\text{LOG}[2] + 0.021, \quad \text{year} > 2005 \quad (\text{A-16a})$$

The solar TSI has fallen since about 2005 and is forecast to continue to fall for the next several hundred years. Therefore, when used to forecast HadCRUT4 temperatures beyond 2005, equation (A-16a) should provide some extra conservatism with respect to temperature rise due only to GHG effects.

Since random and cyclic patterns of temperature variation are observed in the surface temperature datasets with long histories such as HadCRUT4 and GISTEMP, the cyclic behavior in surface temperature must result from the da , dS , and/or dQ terms in eq. (A-15). Some short lived random effects are due to variations in da caused by large volcanic eruptions that seem to occur at random intervals. Therefore, using eqs. (A-16) and (A-16a), the equation for variations in earth surface temperature can be separated into terms providing monotonically increasing and cyclic components as shown in eq. (A-17).

$$\begin{aligned} dT(\text{year}) &= dT_m(\text{year}) + dT_c(\text{year}) \\ &= TCS(1+\beta)\text{LOG}[C(\text{year})/284.7]/\text{LOG}[2] + 0.021(\text{year}-1850)/(155) + dT_c(\text{year}) \quad (\text{A-17}) \end{aligned}$$

In Section 2.2.5 of this report, the $TCS(1+\beta)$ undetermined constant in the $dT_m(\text{year})$ function is evaluated on the basis of the long term GMST rise since 1850 that is approximated by the HadCRUT4 temperature anomaly. The value $TCS(1+\beta) = 1.8\text{C}$ was determined from this parameter identification approach. Analysis of the atmospheric GHG and aerosol concentration increases since 1850 in the IPCC AR5 Report and the radiative force contributed by GHG other than CO_2 and aerosols indicated over the period since 1850, β is approximately 0.5. Although $TCS(1+\beta) = 1.8\text{C}$ only has uncertainty due to the long term GMST rise since 1850 and the CO_2 concentration in 1850, $TCS = 1.2\text{C}$, has more uncertainty as it is estimated from

$$TCS(1+0.5) = 1.8\text{C}$$

However, long term GMST rise due to atmospheric GHG and aerosols can be more accurately forecast with,

$$dT(\text{year}) = dT_m(\text{year}) = 1.8\text{LOG}[C(\text{year})/284.7]/\text{LOG}[2] + 0.021 \quad \text{year} > 2005$$

$$dT(\text{year}) = \text{GMST}(\text{year}) - \text{GMST}(1850)$$

$$\text{GMST}(\text{year}) - \text{GMST}(1850) = 1.8\text{LOG}[C(\text{year})/284.7]/\text{LOG}[2] + 0.021 \quad \text{year} > 2005$$

.....(A-18)

THE RIGHT CLIMATE STUFF RESEARCH TEAM

2604 Piney Woods Drive

Pearland, Texas 77581

May 26, 2017

The Honorable Donald J. Trump, President of the United States
The White House
1600 Pennsylvania Ave., N.W.
Washington, D.C. 20500

Dear Mr. President:

The Right Climate Stuff (TRCS) research team is composed primarily of retired NASA scientist and engineer veterans of the USA Apollo Program. We are writing to inform you regarding what we have concluded about the Anthropogenic Global Warming (AGW) alarm that has been spearheaded by the United Nations and its Intergovernmental Panel on Climate Change (IPCC). We, the undersigned, strongly support withdrawal from the UN Framework Convention on Climate Change (UNFCCC) and the 2015 UN Paris Treaty on worldwide controls of CO2 emissions because of the non-scientific conclusions on which these agreements are based.

NASA retirees organized TRCS research team in the Spring of 2012 and developed a website that documents our progress into understanding the AGW issue over the last 5 years. www.TheRightClimateStuff.com We set as our initial goal, *"Determine to what extent unrestricted burning of fossil fuels can cause harmful climate change."* We have concluded that the computer model analyses used in the IPCC reports, estimating global warming increases up to 4.5 degrees C for doubling atmospheric CO2 concentration, are in error because the models do not agree with empirical data as required by the principles of the Scientific Method. Our analysis, based on principles of conservation of energy, uses well-known, measured data and predicts no more than 1.2 degrees C increase in global warming due to burning all currently known world-wide reserves of fossil fuels. Our simple model is validated by the rigor of its derivation and agreement with 167 years of empirical data since 1850. This analysis was completed with the same rigor and attention to detail used in our manned space program, where the lives of astronauts depended on our accuracy.

Signers of this letter have followed the TRCS research team progress and have either participated in or encouraged their efforts. Details of the TRCS research team analysis methods, conclusions and recommendations were submitted to the Trump Transition Team at the Environmental Protection Agency (EPA) in a 39-page report dated Nov. 30, 2017 and entitled, "RECOMMENDATIONS TO THE TRUMP TRANSITION TEAM INVESTIGATING ACTIONS TO TAKE AT THE ENVIRONMENTAL PROTECTION AGENCY (EPA)". We are attaching a copy of this report to this letter for US government experts to consider in contrast to the kind of AGW assessments that have been generated within the US government at NASA, NOAA and the EPA, and by the UN IPCC in its periodic reports.

While AGW may be a potential problem, it is not the kind of rapidly developing problem where urgent corrective action should be taken with severe negative consequences for the US economy. Scientifically unsupported stampeding towards a political agenda of the UN represented by the UNFCCC and 2015 Paris Treaties, is not the kind of scientific world leadership and rational decision-making that a nation that landed men on the moon, should demonstrate to other nations on this planet.

We recommend the proper course for the USA today, is to show world leadership by withdrawing from both the UNFCCC and UN Paris Treaties, with a statement that the climate science on which these agreements are based, is too immature and uncertain, with potentially severe unintended consequences for all mankind.

Sincerely,

The undersigned members and supporters of The Right Climate Stuff Research Team

cc: The Honorable Rex Tillerson – Secretary of State, USA

The Honorable Rick Perry, Secretary of Energy, USA

The Honorable Scott Pruitt, Administrator, USA Environmental Protection Agency

ENCLOSURE: The Right Climate Stuff Research Team Report, “RECOMMENDATIONS TO THE TRUMP TRANSITION TEAM INVESTIGATING ACTIONS TO TAKE AT THE ENVIRONMENTAL PROTECTION AGENCY (EPA)”. Nov. 2016

SIGNATURES:



Harold H Doiron, PhD, Mechanical Engineering
Chairman, The Right Climate Stuff Research Team (NASA JSC 1963-1979)
VP, Engineering, InDyne, Inc. (retired)

Other signatures on continuation sheet

Robert M. Bauman, a proud TRCS member, 3 years

Martin C. Cornell, B.S. Chemistry
Member, The Right Climate Stuff Research Team
Senior Scientist, The Dow Chemical Co. (1967-2003; retired)

Walter Cunningham, M.S. Physics
Apollo 7 Astronaut
Colonel, USMCR-Ret

J. Douglas Drewry, B.S. Physical Science, M.A. Eng Mgt
NASA JSC Aerospace Engineer 1989 - 2012, Retired (USAF 1972-1976)

Charles M Duke, Jr
Brig. Gen. USAF, (Ret)
Apollo 16 Astronaut

John Dale Dunn MD JD
Emergency Medicine/Peer Review, Contract Civilian Emergency Department Faculty Center
Carl R. Darnall Army Med

Laurence I. Gould, Professor of Physics (University of Hartford), Past Chair (2004) New England
Section
of the American Physical Society, Member of The Right Climate Stuff research team

Will Happer, PhD Physics
Princeton University, Professor of Physics

Thomas J Harmon, JSC retiree

Jack Knight
Member TRCS, NASA- JSC, Chief, Advanced Operations and Development Division, MOD, 40 years

Joel Leavitt, B.S. Ch. E., M.A. Comm.
Member TRCS Research Team (CCPC, Inc. Refinery Eng. and Eco., 1975 - 2006, retired.)

Lubert Leger PhD
Member TRCS, Retired NASA JSC

Jay Lehr, PhD

Science Director The Heartland Institute, author, co-author and editor of 36 science books.

Former Professor The Ohio State University and the University of Arizona

Executive Director of the Association of Ground Water Scientists and Engineers.

The Viscount Monckton of Brenchley

Hobbit Court, Dyrham, Chippenham, SN14 8HE

Tel. 0117 937 4155; cell +44 7814 556423

monckton@mail.com

Thomas L. (Tom) Moser, BSME, MSME,

NASA - JSC, Director of Engineering; Dep. Assoc. Admin. & Director, Space Station Program
(retired)

James M. Peacock, B.S. in M.E.

Charter Member of The Right Climate Stuff Research Team (NASA JSC Aerospace Engineer 1962-83
retired)

Aldara G. Peacock BS Biology

Chicken Husbandry Specialist, Charter Member of TRCS Research Team

Orvis Pigg

NASA-JSC Retired

Joseph E. Rogers, PE, BSME & MSCE

Chief, Structures Branch (formerly) (NASA JSC 1966-2007 retired)

Bernard J. Rosenbaum, B.S. ChE,

Member TRCS, Senior Engineer, Propulsion & Power Div., Engr. Directorate, 1963 - 2013, retired

Richard L. Sauer

Member TRCS, NASA-JSC, Life Sciences Environmental Engineer 1997-2000

Dr. William C. Schneider

Retired NASA Senior Engineer Johnson Space Center and Texas A&M University Endowed Professor

H. Leighton Steward BS, MS Geologist

Environmentalism, President of Plants Need CO2 Co-founder and member of

The Right Climate Stuff team and a director of Dr. Will Happer's CO2 Coalition

James B Tollison Jr., B.S. in E.E
Lunar EVA Communications Engineer, NASA-JSC 1963-70
Nuclear Weapons Program, DOE 1970-89
Senior Scientist, SAIC 1989-2013

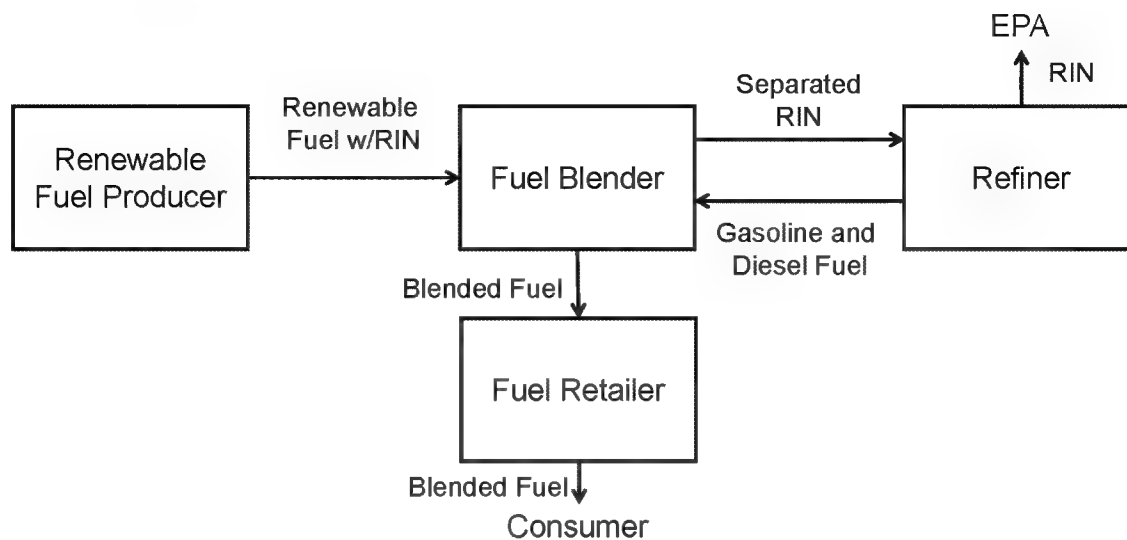
James T. Visentine, MS in Atmospheric Physics
Member, The Right Climate Stuff Research Team (NASA JSC Aerospace Scientist 1964-2007 retired)

Thomas (Tom) Wismuller, Meteorologist
NASA-JSC TRCS Member, Meteorologist, 5 years

Ken Young BS-ASE-1962
Director/President, The Right Climate Stuff Foundation, NASA-JSC Aerospace Engr. 1962-1987,
retired

RIN Demand

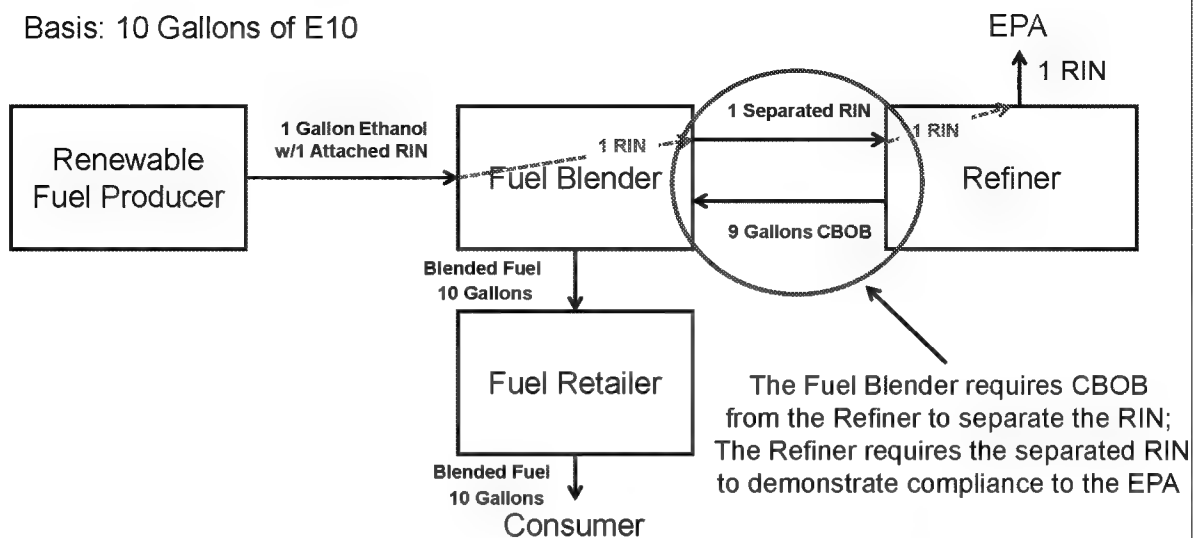
Refiner as Obligated Party



The EPA demands RINs from the Refiner which creates the demand for renewable fuel blending

Physical RIN/Fuel Flow *Refiner as Obligated Party*

Basis: 10 Gallons of E10

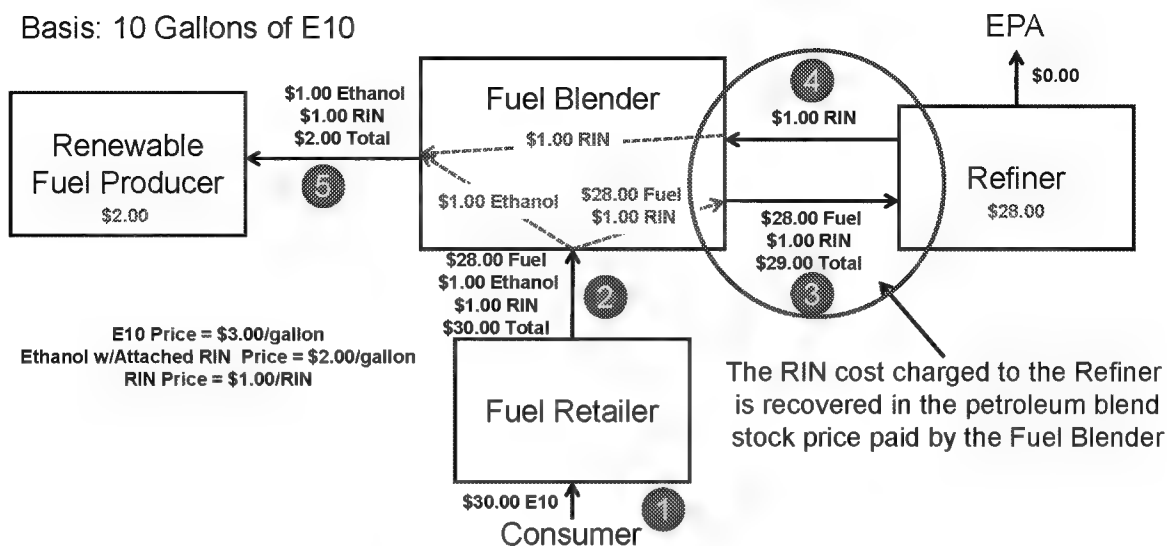


RIN flow connects the Renewable Fuel Producer, the Fuel Blender, and the Refiner to the EPA

RIN Value Flow

Refiner as Obligated Party

Basis: 10 Gallons of E10



The Consumer pays for the RIN value which then passes through the Fuel Blender and Refiner to ultimately subsidize the Renewable Fuel Producer

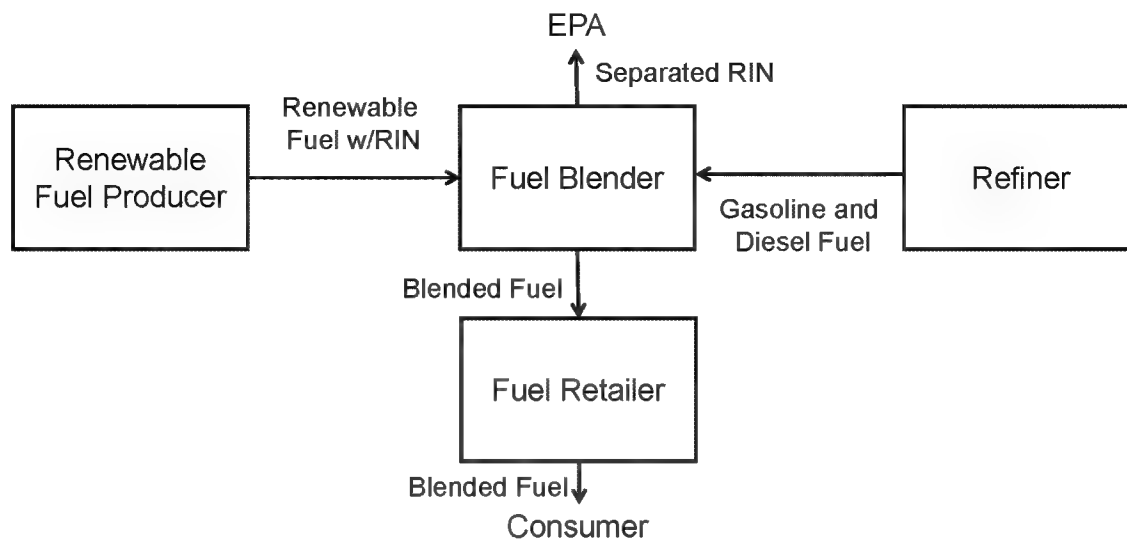
RIN Pass Through Sequence

Refiner as Obligated Party

Step #	Value Flow	Physical Flow	Comments
1	Consumer pays total fuel cost to Fuel Retailer	Consumer receives blended fuel from Fuel Retailer	Total fuel cost includes the cost of the petroleum fuel blend stock, ethanol, and the RIN
2	Fuel Retailer passes total fuel cost to Fuel Blender	Fuel Retailer receives blended fuel from Fuel Blender	Fuel Retailer passes through the RIN value to the Fuel Blender
3	Fuel Blender pays petroleum fuel blend stock and RIN cost to Refiner	Fuel Blender receives petroleum fuel blendstock from Refiner	Refiner receives the petroleum fuel blendstock value
4	Refiner pays RIN cost to Fuel Blender	Refiner receives RIN from Blender	Refiner remits RIN to the EPA
5	Fuel Blender pays ethanol and RIN cost to Renewable Fuel Producer	Fuel Blender receives ethanol with attached RIN	Renewable Fuel Blender receives the ethanol value and the RIN value (as a subsidy)

RIN Demand

Fuel Blender as Obligated Party

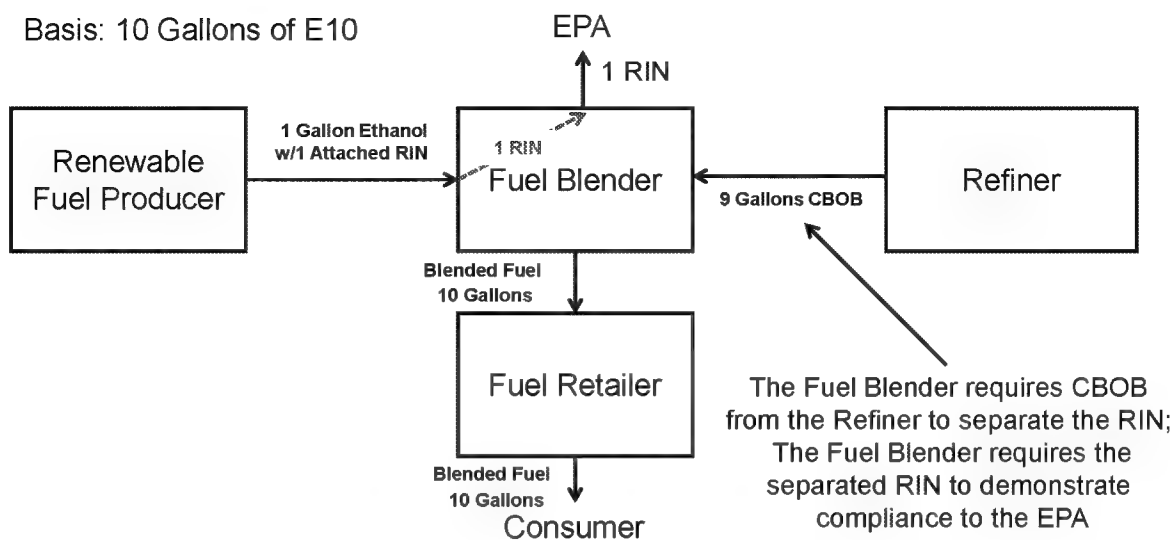


The EPA demands RINs from the Fuel Blender which creates the demand for renewable fuel blending

Physical RIN/Fuel Flow

Fuel Blender as Obligated Party

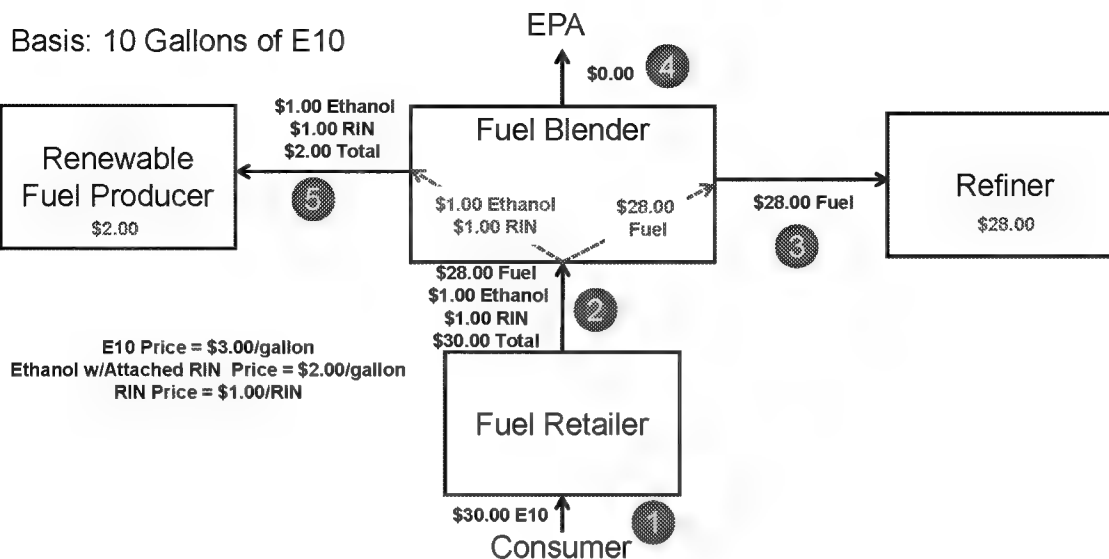
Basis: 10 Gallons of E10



*RIN flow connects only the Renewable Fuel Producer
and the Fuel Blender to the EPA*

RIN Value Flow

Fuel Blender as Obligated Party



The Consumer pays for the RIN value which then passes through the Fuel Blender to subsidize the Renewable Fuel Producer

RIN Pass Through Sequence

Fuel Blender as Obligated Party

Step #	Value Flow	Physical Flow	Comments
1	Consumer pays total fuel cost to Fuel Retailer	Consumer receives blended fuel from Fuel Retailer	Total fuel cost includes the cost of the petroleum fuel blend stock, ethanol, and the RIN
2	Fuel Retailer passes total fuel cost to Fuel Blender	Fuel Retailer receives blended fuel from Fuel Blender	Fuel Retailer passes through the RIN value to the Fuel Blender
3	Fuel Blender pays petroleum fuel blend stock to Refiner	Fuel Blender receives petroleum fuel blendstock from Refiner	Refiner receives the petroleum fuel blendstock value
4	No RIN value flows to the EPA	Fuel Blender remits RIN to the EPA	
5	Fuel Blender pays ethanol and RIN cost to Renewable Fuel Producer	Fuel Blender receives ethanol with attached RIN	Renewable Fuel Producer receives the ethanol value and the RIN value (as a subsidy)

RIN Pass Through Sequence Comparison

	Refiner Obligated	Blender Obligated	Comments
Consumer	Consumer pays total fuel cost to Fuel Retailer	Consumer pays total fuel cost to Fuel Retailer	No Physical Impact No RIN Value Impact
Fuel Retailer	Fuel Retailer passes total fuel cost to Fuel Blender	Fuel Retailer passes total fuel cost to Fuel Blender	No Physical Impact No RIN Value Impact
Fuel Blender	Fuel Blender pays petroleum fuel blend stock plus RIN cost to Refiner and ethanol and RIN cost to Renewable Fuel Producer	Fuel Blender pays petroleum fuel blend stock cost to Refiner and ethanol and RIN cost to Renewable Fuel Producer	No Net Physical Impact No Net RIN Value Impact
	Fuel Blender separates physical RIN	Fuel Blender separates physical RIN	
	Fuel Blender receives RIN Value from Refiner in exchange for physical RIN	Fuel Blender remits RIN to EPA	
Refiner	Refiner supplies petroleum fuel blendstock and receives petroleum blendstock value plus RIN value	Refiner supplies petroleum fuel blendstock and receives petroleum fuel blendstock value	No Net Physical Impact No Net RIN Value Impact
	Refiner pays RIN value to Fuel Blender in exchange for physical RIN		
	Refiner remits RIN to EPA		
Renewable Fuel Producer	Renewable Fuel Producer supplies ethanol with attached RIN and receives ethanol and RIN value	Renewable Fuel Producer supplies ethanol with attached RIN and receives ethanol and RIN value	No Physical Impact No RIN Value Impact

Message

From: Haley Armstrong [harmstrong@icac.com]
Sent: 5/8/2017 3:31:18 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Cervino, Victor [Victor.Cervino@mpshq.com]
Subject: Connecting from ICAC Clean Air Summit

Hi Mandy,

Thank you for participating in last week's ICAC Clean Air Summit! Our members have expressed that they found tremendous value in the panel that you participated in.

I am writing to connect you with Victor Cervino from Mitsubishi Hitachi Power Systems America (included on this email). He is an ICAC members and attended the Clean Air Summit, but unfortunately wasn't able to touch base with you after your panel. I wanted to electronically introduce the two of you so that he can follow-up directly with you.

Please let me know if ICAC can be of any assistance going forward, and thanks again!

Best,
Haley

Haley Armstrong
Institute of Clean Air Companies
2200 Wilson Blvd, Suite 310
Arlington, VA 22201
202.478.6188 (office)



**BEFORE THE UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY**

In re:	)	EPA Docket No.
)	
Cross-State Air Pollution Rule Update	)	EPA-HQ-OAR-2015-0500
for the 2008 Ozone NAAQS)	
)	

Western Farmers Electric Cooperative’s Petition for Reconsideration of the *Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS*

Western Farmers Electric Cooperative (“Western Farmers”) respectfully petitions the U.S. Environmental Protection Agency (“EPA” or “Agency”) for reconsideration of the final rule entitled “*Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS*,” Docket No. EPA-HQ-OAR-2015-0500, 81 Fed. Reg. 74,504 (Oct. 26, 2016) (“CSAPR Update Rule” or “Final Rule”).¹ Specifically, Western Farmers requests that EPA recalculate (1) unit-level allocations of seasonal nitrous oxide (“NO_x”) allowances for 2017 and beyond for Western Farmers’ Anadarko Plant, using data-substitution called for by the Final Rule; and (2) Oklahoma’s NO_x seasonal emission budget for 2017 and beyond, using the proposed limited adjustment to EPA’s budget calculation methodology to account for arbitrary modeling results.

Western Farmers is a not-for-profit company, and its primary mission is to provide affordable and reliable power to its consumers. Western Farmers is a generation and transmission cooperative that is owned by, and serves, 21 member distribution cooperatives in Oklahoma and New Mexico. Western Farmers also is proud to serve Altus Air Force Base. Western Farmers owns and maintains approximately 3,700 miles of transmission that is operated and administered by the Southwest Power Pool, and its diverse generating mix includes a single 450 megawatt (“MW”) coal-fired generation unit at the Hugo plant and 14 natural gas-fired steam cycle, simple cycle, and combined cycle generating units at the Anadarko and Mooreland plants in Oklahoma.² Additionally, Western Farmers has been a leader in Oklahoma and the west in developing low- and zero-carbon emitting generation, with almost 600 MW of wind

¹ Along with an electronic submission of this petition, Western Farmers is supplying EPA with a CD-Rom containing the six Appendices (Appendices A-1 to C-2). The Appendices are Excel datasheets and workbooks demonstrating the calculations and modeling described in this petition. The CD-Rom contains both a “locked” (*i.e.*, password-protected, read-only) version and an “unlocked” courtesy working copy of each file. Appendices B-1 and C-1-2 are modifications of EPA’s own tools (Appendix E and AQAT, respectively) and use EPA’s own cell formulas. Appendices A-1-2 and B-2 are Western Farmers’ original files with cell formulas removed, but with all necessary data and explanation of the methodology underlying the calculations.

² As well as the 42 MW Wartsila plant in Lovington, New Mexico.

energy resources currently, and another 30 MW wind facility planned for 2017. Also, Western Farmers added solar to its portfolio mix in 2016 (to come online in early 2017), including 25 MW of solar energy under contract and just over 20 MW of owned solar energy resources.³

BACKGROUND

CSAPR addresses the "good neighbor" provision of the Clean Air Act, which prohibits sources within each state "from emitting any air pollutant in an amount which will . . . contribute significantly" to any other state's nonattainment, or interference with maintenance of, any NAAQS. 42 U.S.C. § 7410(a)(2)(D)(i)(I). EPA defines "significant contribution" by reference to (1) a state's "linkage" to downwind receptors (*i.e.*, emissions of approximately 1 percent of compliant ambient levels),⁴ and (2) the ability of the state to achieve emission reductions at the relevant cost threshold.⁵ CSAPR achieves emissions reductions through annual and ozone season emissions trading programs.

EPA finalized CSAPR in 2011 to address three NAAQS, including the 1997 ozone NAAQS. 76 Fed. Reg. 48,208 (Aug. 8, 2011) ("Original CSAPR Rule" or "CSAPR"). In December 2011, EPA finalized a supplemental CSAPR rule that added several states, including Oklahoma, to the ozone season NO_x program. 76 Fed. Reg. 80,760 (Dec. 27, 2011) ("Supplemental CSAPR Rule"). Various groups challenged CSAPR, resulting in a stay of the rule. *See EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir. Dec. 30, 2011). CSAPR and Supplemental CSAPR Rule requirements and deadlines were effectively tolled pending resolution of the litigation. *See* 79 Fed. Reg. 71,663 (Dec. 3, 2014). In April 2014, the U.S. Supreme Court generally upheld the rule, *see EPA v. EME Homer City Generation LP*, 134 S. Ct. 1584 (2014), and the stay was lifted in October 2014. *See EME Homer City*, No. 11-1302 (Oct. 23, 2014). Phase 1 of the CSAPR ozone season program began in May 2015.

EPA published the Final CSAPR Update Rule in October 2016 to address good neighbor provisions with respect to the 2008 ozone NAAQS. The Agency had published a proposed rule

³ WFEC purchases or produces energy from various wind sources, and, in the near future, solar resources. However, WFEC has not historically, nor may not in the future, retain or retire all of the renewable energy certificates associated with the energy production from these facilities.

⁴ EPA used an ozone air quality assessment tool ("AQAT") to determine which states contribute to ozone concentrations at maintenance and non-attainment downwind receptors, and to estimate the impact of upwind states' NO_x emissions reductions on downwind ozone pollution concentrations. The AQAT was developed specifically for the CSAPR Update Rule. EPA, *Regulatory Impact Analysis of the Cross-State Air Pollution Rule (CSAPR) Update for the 2008 National Ambient Air Quality Standards for Ground-Level Ozone* (Sept. 2016) at 3-10, available at https://www3.epa.gov/ttn/ecas/docs/ria/transport_ria_final-csapr-update_2016-09.pdf ("Regulatory Impact Analysis").

⁵ EPA used the Integrated Planning Model v.5.15 ("IPM") to predict how many emissions reductions are available at the relevant cost thresholds. IPM is a dynamic, linear programming model used to project power sector behavior under current and future conditions. IPM's primary objective is to provide estimates of least-cost capacity expansions, electricity dispatch, and emission control strategies while meeting energy demand and environmental, transmission, dispatch, and reliability constraints. *See* <https://www.icf.com/solutions-and-apps/ipm>.

about 10 months earlier. *See* 80 Fed. Reg. 75,706 (Dec. 3, 2015) (“Proposed CSAPR Update Rule” or “Proposed Rule”). In the Final Rule, EPA found that 22 eastern states, including Oklahoma, had failed to submit a state implementation plan to meet their good neighbor obligations. For these 22 states, EPA issued federal implementation plans that generally update existing CSAPR NO_x ozone season emission budgets, and that implement these budgets through modifications to the existing CSAPR NO_x ozone season allowance trading program. The Final Rule addresses only emission reductions from electric generating units (“EGUs”). Implementation will start in the 2017 ozone season (May - September 2017).

EPA made several significant changes between the Proposed and Final CSAPR Update Rules. Most notably for Western Farmers and other Oklahoma generators:

(1) In calculating allocations for Oklahoma units in the Final Rule, EPA did not use data-substitution. Both the Proposed and Final Rules call for EPA to use up to *five* years of historic heat input data and up to *eight* years of historic NO_x emissions data. To accomplish this, both rules also call for EPA to use a data-substitution method (so that if data is not available from EPA’s preferred data source for a given year, EPA can pull equivalent data from an alternative source).⁶ EPA followed this method in the Proposed Rule.⁷ But in the Final Rule, EPA switched to using a *single year of historic baseline data without any data-substitution* for the Anadarko Plant and other Oklahoma units. EPA’s error in the Final Rule led to a drastic (over 80 percent) reduction in the Anadarko Plant units’ allocations from the Proposed Rule to the Final Rule.⁸

(2) In calculating Oklahoma’s budget in the Final Rule, EPA used a revised formula with new inputs. Specifically, EPA introduced new variables, including (1) a NO_x emission rate “delta” (equal to the difference between an IPM 2017 Final Base Case and IPM 2017 Final \$1,400/ton Cost Case emission rate); and (2) an “adjusted” historic emission rate, based on a newly-developed dataset.⁹ For seven states, including Oklahoma, the IPM 2017 Base Case

⁶ The two data sources EPA says it will look to are: (1) EPA’s Clean Air Markets Division (“CAMD”), for years for which it is available; and (2) U.S. Energy Information Administration (“EIA”), for years for which CAMD data is unavailable.

⁷ With some caveats: EPA did not include 2014 EIA data because it was unavailable at the time the Proposed Rule was published. Thus, for units without 2014 CAMD data, EPA did not “backfill” or substitute any EIA data. Additionally, EPA did not include data for years for which a unit was not yet operating (*e.g.*, if a unit that began operating in 2012, EPA used available 2012-2014 heat input and NO_x emissions data). *See* EPA, Proposed Rule, *Unit Level Allocations and Underlying Data for the CSAPR for the 2008 Ozone NAAQS* (“Proposed Allocation Spreadsheet TSD”). Excel file available at <https://www.epa.gov/airmarkets/proposed-cross-state-air-pollution-update-rule>. Further, as discussed below, it appears that EPA inappropriately relied on annual, not monthly, EIA data and made arbitrary downward adjustments to reported EIA data for cogeneration and combined cycle units. EPA should use monthly, reported (*i.e.*, unadjusted) EIA data in the revised Final Rule allocations.

⁸ *See* Part I below.

⁹ Both the Proposed and Final Rules call for EPA to set state budgets as the minimum of either (1) historic emissions or (2) IPM-predicted 2017 emissions. EPA’s changes pertain to the formula for calculating IPM-predicted 2017

emission rate is significantly higher than the state's historic actual or adjusted 2015 emission rates—an unrealistic and arbitrary outcome (the “*Perverse IPM Result*”). The Perverse IPM Result creates an arbitrarily high “delta” value, causing EPA to overestimate the amount of available emission reductions in the state. Carried through the rest of the formula, this error results in an unrealistically low state budget. Oklahoma’s budget is approximately 28 percent lower in the Final Rule than it was in the Proposed Rule—the *most drastic reduction for any state*.¹⁰

REQUEST FOR RECONSIDERATION

The Clean Air Act requires that EPA grant reconsideration of a regulation if a petitioner “can demonstrate to the Administrator that it was impracticable to raise [an] objection [during the period for public comment] or if the grounds for such objection arose after the period for public comment . . . and if such objection is of central relevance to the outcome of the rule.” 42 U.S.C. § 7607(d)(7)(B). In such a situation, reconsideration is mandatory: EPA “*shall* convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed.” *Id.* (emphasis added).

The notice-and-comment requirements of the Clean Air Act and the Administrative Procedure Act further require that EPA’s “proposed rule and its final rule . . . differ only insofar as the latter is a ‘logical outgrowth’ of the former.” *Env’tl. Integrity Project v. EPA*, 425 F.3d 992, 996 (D.C. Cir. 2005). A “final rule is a ‘logical outgrowth’ of a proposed rule *only* if interested parties should have anticipated that the change was possible, and thus reasonably should have filed their comments on the subject during the notice-and-comment period.” *Id.* at 998.

EPA must grant reconsideration of the CSAPR Update Rule because:

(1) **In calculating allocations for Oklahoma units**, EPA made a clear technical error by failing to use EIA data-substitution for the Anadarko Plant and other units. As described further below, the grounds for this objection arose after the public comment period. EPA did not make a similar error in the Proposed Rule, nor did EPA give notice of, or seek comment on, the option of *not* using data-substitution—so that some units would receive allocations based on a *single* baseline year—in the Final Rule. This objection is of central relevance to the outcome of the Final Rule. EPA’s error threatens Western Farmers’ ability to comply with the Final Rule, especially given the extremely short compliance timeframe for the 2017 ozone season. It has also created an unfair and unrepresentative distribution of allowances within Oklahoma, making it harder for the state to comply efficiently with the rule. Compliance feasibility and efficiency are central to the outcome of the CSAPR Update Rule.

emissions. EPA used a historic emissions baseline period of 2014 in the Proposed Rule and 2015 in the Final Rule. See Part II below.

¹⁰ The primary driver of this drop in Oklahoma’s budget appears to be the new IPM-predicted 2017 emissions formula, not the switch from a 2014 to 2015 historic baseline year. See Part II below.

(2) **In calculating Oklahoma’s budget**, EPA used a new formula with inaccurate and perverse data inputs that overestimated the available emissions reductions in the state. As described further below, the grounds for this objection arose after the public comment period. EPA’s broad request in the Proposed Rule for comment on “all aspects” of quantifying state budgets did not give Western Farmers reasonable notice of the highly complex changes EPA would adopt in the Final Rule—changes that would negatively impact Oklahoma more than any other state. This objection is of central relevance to the outcome of the Final Rule. Oklahoma’s current Final Rule budget is unrealistically and arbitrarily low. This threatens the ability of *all* covered Oklahoma units to comply with the rule.

I. UNIT-LEVEL ALLOWANCE ALLOCATIONS

A. EPA Should Follow its Own Methodology and Use EIA Data-Substitution

EPA’s unit-level allowance allocation calculations in the Final Rule are arbitrary and capricious as applied to Western Farmers’ Anadarko Plant units. EPA’s failure to perform EIA data-substitution—and use of a single historic baseline year for some units—goes against the Final Rule’s own prescribed methodology. It also puts units on unequal footing: some units received allocations based on one year of operation, while other units received allocations based on multiple years of operation. This effectively penalizes units, like the Anadarko Plant units, that had no obligation to report data to CAMD in prior years.

EPA must recalculate Western Farmers’ allocations for the Anadarko Plant units to avoid this unfair and arbitrary outcome. Specifically, EPA must use (1) five years of reported heat input data (2011-2015) and eight years of reported NOx emissions data (2008-2015); and (2) EIA data-substitution, where CAMD data is unavailable. Therefore, the allocations should be based on 2011-2014 EIA and 2015 CAMD heat input data and 2008-2014 EIA and 2015 CAMD NOx emissions data. EPA should use monthly (not annual), reported (not adjusted) data. *See* Appendix A-1 for detailed proposed calculations.¹¹

1. What EPA Said it Would Do

Western Farmers’ request to EPA is straightforward: simply do what you said you would do (but did not actually do). The Final Rule calls for using a five-year (2011-2015) historic baseline period for heat input data, and an eight-year (2008-2015) historic baseline period for NOx emissions data. *See* Allocation TSD at 6-7.¹²

¹¹ Where reported unit-level heat input EIA data is unavailable, EPA should make the best estimate based on reported plant-level EIA heat input data and reported unit-level heat input data (*e.g.*, from CAMD). Appendix A-2 includes a detailed proposed estimation technique.

¹² EPA’s allocation methodology has two main phases: (1) **Heat Input Data Phase:** EPA “uses the average of the three highest years of heat input data out of a consecutive five-year period [2011-2015] to establish the heat input baseline for each unit.” 81 Fed. Reg. at 74,564. EPA then calculates initial heat input-based allowance allocations based on each unit’s percentage share of the state’s total ozone season heat input; and (2) **NOx Emissions Data Phase:** EPA then “constrains the unit-level allocations so as not to exceed the maximum historical baseline emissions, calculated as the highest year of emissions out of a consecutive eight-year period [2008-2015].” *Id.*

EPA's rationale for using multiple historic baseline years is sound: it helps ensure that outlier data from a single unrepresentative year (*e.g.*, where heat input or NO_x emissions levels were significantly lower than usual) does not skew the calculations.¹³ As EPA recognizes, the power sector is susceptible to a range of variables affecting fuel use and emissions, including equipment failures, changing market forces, and weather patterns. *See* 81 Fed. Reg. at 74,566. One year of historic data cannot capture the inherent variability in a unit's operations from year to year, or ozone season to ozone season.

EPA says it will to look to two possible sources to obtain this historic data:

(1) First, EPA's CAMD database, which contains data from units already reporting under CSAPR or other trading programs, such as the Clean Air Interstate Rule or the Acid Rain Program; and

(2) Second, EIA forms, "where EPA data are unavailable." *Id.* at 6-7.

Under this approach, the only baseline years for which a unit should have a "missing" value are baseline years "for which a unit has *no* data on heat input (*e.g.*, for a baseline year before the year when a unit started operating)." *Id.* at 7 (emphasis added). In other words, if CAMD data is available for a unit for a particular year within the relevant historic baseline period, EPA should use that CAMD data. If CAMD data is unavailable but EIA is available, EPA should use the EIA data.¹⁴ *If and only if neither CAMD nor EIA data is available (e.g., because the unit was not yet operating), EPA should use no data—i.e., "zero" values.*

Indeed, for many units EPA *must* look to a historic data source other than CAMD to populate the multi-year baseline periods called for in the Final Rule. Prior to Phase I of the CSAPR program in 2015, many units, including the Anadarko Plant units, had no obligation to report data to CAMD under any EPA program. The Anadarko Plant units have only a single year of reported CAMD data (2015), but multiple years of EIA data (back to before 2008, the earliest relevant baseline year under the Final Rule). Under such circumstances, EPA's methodology calls for the Agency to use a combination of 2015 CAMD data and 2008-2014 EIA data to establish unit allocations.

Overall, this methodology "bases a unit's allocation on the unit's historical heat input but limits any unit's allocation to its historical maximum emissions." EPA, *Allowance Allocation Final Rule TSD* at 6 (Aug. 2016) ("Allocation TSD"). Available at <https://www3.epa.gov/airmarkets/CSAPRU/CSAPR%20Allowance%20Allocations%20Final%20Rule%20TSD.PDF>.

¹³ *See* Allocation TSD at 7. EPA chose a multi-year heat input baseline because "[s]electing the three highest, non-zero ozone season heat input values within the five-year baseline reduces the likelihood that any particular single year's operations (which might be negatively affected by outages or other unusual events) determine a unit's allocation." *Id.* EPA chose a multi-year NO_x emissions baseline "in order to capture the unit-level emissions before and after the promulgation of the original CSAPR." *Id.*

¹⁴ For certain years and facilities, EIA heat input data is reported only on a plant-level, not unit-level, basis. As noted above, EPA should make its best estimate of unit-level heat input data. *See* Appendices A-1 and A-2.

EPA also states it will look to publicly available, *reported* EIA data.¹⁵ EPA does not state, in either the Final Rule or the Allocation TSD, that the Agency will adjust EIA data from what is reported directly on the EIA forms.¹⁶ EPA therefore should use *monthly (not annual), reported (not downward-adjusted for combined cycle and cogeneration units)* EIA data whenever EIA data is called for in allocation calculations. Monthly data is better than annual data with a crude 5/12 multiplier because monthly data more accurately reflects actual ozone season operations.¹⁷ Reported heat input data is better than downward-adjusted heat input data for cogeneration and combined cycle units because reported data more accurately reflects these units' actual fuel use, as well as their highly efficient processes.¹⁸ Using monthly, reported EIA data also is consistent with EPA's treatment of CAMD data, which EPA did not adjust when incorporating it into the Final Rule's current allocation calculations. Treating EIA and CAMD data differently would be arbitrary and capricious.

2. What EPA Actually Did

In the Final Rule, EPA inexplicably relied on *only* CAMD data, without backfilling EIA data, in its Oklahoma unit allocations. See EPA, Final Rule, *Unit-Level Allocations and Underlying Data for the CSAPR Update for the 2008 Ozone NAAQS* ("Final Allocation Spreadsheet TSD").¹⁹ Several units, including the Anadarko Plant units, had only a single year (2015) of reported CAMD data, because these units were not required to report data to CAMD

¹⁵ Specifically, EPA "used historical heat input and emissions data [EIA] forms, 860, 906, 920, and 923. These data are publicly available at <http://www.eia.doe.gov/cneaf/electricity/page/data.html>." Allocation TSD at 6.

¹⁶ In the Proposed Rule, EPA appears to have altered Western Farmers' reported EIA data in two ways: (1) instead of looking at *monthly* data for ozone season months, EPA took *annual* data and multiplied it by 5/12 to estimate ozone season operations (because the ozone season comprises 5 months out of the year); and (2) instead of using total reported heat input values, EPA applied a downward "proportional nameplate capacity adjustment" to cogeneration and combined cycle units, which have both a gas turbine and a steam turbine that produce electricity (basically, EPA multiplied the gas turbine's share of the plant's total nameplate capacity by the plant's total heat input). Both of these data manipulations are inappropriate. EPA historically has used reported, monthly EIA data—as it should again here.

¹⁷ The 5/12 ozone season multiplier incorrectly assumes that units operate more or less the same during all 12 months of the year. In fact, the Anadarko Plant units operate *significantly more* during the ozone season because they are highly-efficient natural gas-fired units that are called on during peak periods of electricity demand, which often coincide with ozone season summer months. Further, monthly EIA data for May-September for 2008-2014 is available for these units; there is no reason not to use it.

¹⁸ The "proportional nameplate capacity adjustment" for cogeneration and combined cycle units misunderstands how these units operate and punishes these units for being efficient. *All* fuel consumed in combined cycle units is used in electricity generation: fuel is combusted in the gas turbine to either produce power or produce steam, which then produces power (in the steam turbine). Therefore, the adjustment punishes units for employing a more efficient process that reuses gas turbine exhaust to produce steam and more electricity, rather than just venting it off.

¹⁹ Excel file available at <https://www.epa.gov/airmarkets/final-cross-state-air-pollution-rule-update>.

under any EPA program prior to 2015.²⁰ However, the Anadarko Plant and other Oklahoma units *do* have multiple prior years of available EIA data. EPA could easily backfill this EIA data into its allocation calculation spreadsheet. EPA does not explain why the Agency did not perform this data-substitution in the Final Rule's allocation calculations.

B. Corrected Calculations Show the Anadarko Plant Units Should Receive Over 120 Additional Allowances

EPA's approach arbitrarily reduced the allowances allocated to the Anadarko Plant units. As shown in the figures and tables below, the Final Rule's allocations for the Anadarko Plant units are *more than 75 percent below what they should be* under EPA's allocation method that incorporates EIA data-substitution,²¹ and *over 80 percent below what they were under the Proposed Rule*.²² To correct the allocations for the Anadarko Plant units, Western Farmers used monthly, unadjusted EIA heat input data from EIA forms 923, 860, 906, and 920.²³ See Appendix A-2.²⁴ Western Farmers also pulled publicly available, reported EIA heat input data and performed data-substitution for *all* Oklahoma units. However, Figures 1-4 below show the results for only the Anadarko Plant units.

Figure 1 shows the historic heat input data EPA relied on in performing the initial heat input-based allocation calculations (Steps 1-6) for the Anadarko Plant units in the current Final Rule, while **Figure 2** shows the historic heat input data EPA should have relied on:

²⁰ Western Farmers' analysis indicates that other Oklahoma units with only a single year of CAMD data include AES Shady Point, Mustang, Oklahoma Cogeneration LLC, and Weleetka units.

²¹ Under the Final Rule, the Anadarko Plant units have allocations of 9 tons, 14 tons, and 17 tons, respectively (40 tons combined). Using the corrected method, the Anadarko Plant units would receive allocations of 52 tons, 53 tons, and 56 tons, respectively (161 tons combined). See Figures 1-4 and Table 1 below.

²² Under the Proposed Rule, the Anadarko Plant units would have had allocations of 77 tons each (231 tons combined).

²³ For facilities reporting EIA heat input data at a plant-level, not unit-level, an estimation technique was used to arrive at unit-level heat input data. First, the total reported plant-level heat input (EIA) was reduced by the total reported unit-level heat input for all units for which reported data was available (from EIA or CAMD). Then, the remaining heat input was distributed evenly among the unreported units. See Appendix A-2.

²⁴ For the NOx emission data shown in Figure 4, Western Farmers relied on the NOx emissions values used in the Proposed Rule, due to the company's limited resources and the time it would take to calculate updated NOx emissions values based on monthly, unadjusted EIA data (instead of the annual, adjusted EIA data used in the Proposed Rule). Because *only the maximum* historic NOx emissions affect the unit allocations, re-calculating the NOx emissions values is not expected to impact the final allocations.

Figure 1. Historic Heat Input Data (Current Final Rule Allocations).

Plant Name	ORIS ID	Boiler ID	CAMD Unit ID	Step 1					Steps 2 & 3		Step 4	Step 5	Step 6	
				2011 Ozone Season Heat Input (mmBtu)	2012 Ozone Season Heat Input (mmBtu)	2013 Ozone Season Heat Input (mmBtu)	2014 Ozone Season Heat Input (mmBtu)	2015 Ozone Season Heat Input (mmBtu)	Unit Level Average of 3 Highest Non-Zero Ozone Season Heat Inputs from 2011 to 2015 (mmBtu)	Average of three highest non-zero values in column F	State Level Summation of Unit Level Three Year Average Ozone Season Heat Input (mmBtu)	Unit's Percentage Share of State's Ozone Season Heat Input	Ozone Season NO _x 2017 State Budget for Existing Units (tons)	Initial Heat Input Based 2017 Ozone Season NO _x Allocation (tons)
Calculation											Sum column II values to get State level totals	Column K divided by column L		Column M x column N
Anadarko Plant	3006	4	90966					736,757	736,757		339,851,789	0.002168	11,408	25
Anadarko Plant	3006	5	90967					1,118,066	1,118,066		339,851,789	0.003290	11,408	38
Anadarko Plant	3006	6	90968					1,335,829	1,335,829		339,851,789	0.003931	11,408	45

Figure 2. Historic Heat Input Data (Corrected Final Rule Allocations).

Plant Name	ORIS ID	Boiler ID	CAMD Unit ID	Step 1					Steps 2 & 3		Step 4	Step 5	Step 6	
				2011 Ozone Season Heat Input (mmBtu)	2012 Ozone Season Heat Input (mmBtu)	2013 Ozone Season Heat Input (mmBtu)	2014 Ozone Season Heat Input (mmBtu)	2015 Ozone Season Heat Input (mmBtu)	Unit Level Average of 3 Highest Non-Zero Ozone Season Heat Inputs from 2011 to 2015 (mmBtu)	Average of three highest non-zero values in column F	State Level Summation of Unit Level Three Year Average Ozone Season Heat Input (mmBtu)	Unit's Percentage Share of State's Ozone Season Heat Input	Ozone Season NO _x 2017 State Budget for Existing Units (tons)	Initial Heat Input Based 2017 Ozone Season NO _x Allocation (tons)
Calculation											Sum column K values to get State level totals	Column III divided by column L		Column M x column N
Anadarko Plant	3006	4	90966	1,310,612	1,425,485	1,031,944	725,890	736,757	1,256,347		341,127,969	0.003683	11,408	42
Anadarko Plant	3006	5	90967	1,310,612	1,425,485	1,031,944	905,014	1,118,066	1,285,054		341,127,969	0.003767	11,408	43
Anadarko Plant	3006	6	90968	1,310,612	1,425,485	1,031,944	911,748	1,335,829	1,357,642		341,127,969	0.003980	11,408	45

In the current Final Rule, heat input data for 2011-2014 is effectively treated as “zero.” This is historically inaccurate and distorts the calculations. Under this method, the Step 6 initial heat input-based allowance allocations for the Anadarko Plant units are 25 tons, 38 tons, and 45 tons, respectively. Under the corrected method where available EIA heat input data from the years 2011-2014 is backfilled, the Step 6 initial heat input-based allowance allocations are 42 tons, 43 tons, and 45 tons, respectively.

Figure 3 shows the historic NO_x emissions data EPA relied on in performing the final allowance allocation calculations (Steps 7-10) for the Anadarko Plant units in the current Final Rule, while **Figure 4** shows the historic NO_x emissions data EPA *should have* relied on:

Figure 3. Historic NO_x Emissions Data (Current Final Rule).

				Step 7								Step 8		Steps 9 & 10	
Plant Name	ORIS ID	Boiler ID	CAMD Unit ID	2008 Ozone Season NO _x Emissions (tons)	2009 Ozone Season NO _x Emissions (tons)	2010 Ozone Season NO _x Emissions (tons)	2011 Ozone Season NO _x Emissions (tons)	2012 Ozone Season NO _x Emissions (tons)	2013 Ozone Season NO _x Emissions (tons)	2014 Ozone Season NO _x Emissions (tons)	2015 Ozone Season NO _x Emissions (tons)	Ozone Season NO _x Maximum Historic Baseline (tons)	Final Transport Rule Unit Level NO _x Ozone Season Allocation 2017 (tons)		
Calculation												Highest value of columns F, G, & H	(Larger of columns X and O) + proportionment II O = X		
Anadarko Plant	3006	4	90966									9	9		
Anadarko Plant	3006	5	90967									14	14		
Anadarko Plant	3006	6	90968									17	17		

Figure 4. Historic NO_x Emissions Data (Corrected Final Rule).

Plant Name	ORIS ID	Boiler ID	CAMD Unit ID	Step 7							Step 8		Steps 9 & 10	
				2008 Ozone Season NO _x Emissions (tons)	2009 Ozone Season NO _x Emissions (tons)	2010 Ozone Season NO _x Emissions (tons)	2011 Ozone Season NO _x Emissions (tons)	2012 Ozone Season NO _x Emissions (tons)	2013 Ozone Season NO _x Emissions (tons)	2014 Ozone Season NO _x Emissions (tons)	2015 Ozone Season NO _x Emissions (tons)	Ozone Season NO _x Maximum Historic Baseline (tons)	Final Transport Rule Unit Level NO _x Ozone Season Allocation 2017 (tons)	(Lesser of columns X and Y + reapportionment if O > X)
Calculation												Highest value of columns 7-11		
Anadarko Plant	30064		90966	112	102	119	83	99	33			9	110	52
Anadarko Plant	30065		90967	112	102	119	83	99	33			14	110	53
Anadarko Plant	30066		90968	112	102	119	83	99	33			17	110	56

In the current Final Rule, EPA's approach—which effectively assumes the units had “zero” emissions for 2008-2014—sets Step 8 maximum emissions “upper bound” limits of 9 tons, 14 tons, and 17 tons, respectively. These values serve as “caps” on final allocations, and effectively override and replace the initial Step 6 allocations from Figure 1. Thus, final allocations under Steps 9 & 10 are 9 tons, 14 tons, and 17 tons, respectively.

Under the corrected method where available EIA NO_x emissions data for 2008-2014 is backfilled,²⁵ the Step 8 maximum emissions “upper bound” limits are significantly higher, at 119 tons for all three Anadarko Plant units. This is a much more generous cap, allowing for final allocations under Steps 9 & 10 that are based on taking the initial Step 6 allocations from Figure 2 and adding a reapportionment adjustment. This amounts to final allocations of 52 tons, 53 tons, and 56 tons, respectively (161 combined)—or an additional 43 tons, 39 tons, and 39 tons, respectively (an additional 121 tons combined). Table 1 summarizes the impact of the corrected calculations on the Anadarko Plant units:

Table 1. Impact of Performing EIA Data-Substitution on Anadarko Plant Unit Allocations.

Plant Name	ORIS ID	Boiler ID Proposed/Final	Ozone Season NO _x Maximum Historic Baseline (tons)		Final Transport Rule Unit Level NO _x Ozone Season Allocation 2017 (tons)			Change (Final CSAPR to Scaling Fix) (tons)
			Proposed CSAPR	Final CSAPR	Proposed CSAPR	Final CSAPR	Allocation w/ EIA Data	
Anadarko Plant		30064	145	9	77	9	52	43
Anadarko Plant		30065	145	14	77	14	53	39
Anadarko Plant		30066	145	17	77	17	56	39

In sum, under the corrected method, the Anadarko Plant units should receive a combined total of approximately 161 additional allowances (39-43 additional allowances each). See Appendix A-1 for a complete version of Table 1 showing the impact of EIA data-substitution on all Oklahoma unit allocations.

²⁵ NO_x emissions data for 2014 was not readily available to Western Farmers. Excluding the 2014 data is not expected to impact these calculations because 2014 emissions for the Anadarko Plant units are likely to be lower than 2008-2013 emissions.

C. Western Farmers Could Not Have Reasonably Anticipated EPA's Error

The grounds for Western Farmer's objection arose after the public comment period. Before the Final Rule was issued, Western Farmers could not have expected or anticipated that EPA would set the Anadarko Plant unit allocations based on a *single* historic baseline year and *only* CAMD data. Both the Proposed and Final Rules call for EPA to set unit allocations using multiple historic baseline years²⁶ and EIA data-substitution. EPA did this in the Proposed Rule, but not in the Final Rule. What EPA did in the Final Rule looks like a clear technical error. It would be impracticable, if not impossible, for Western Farmers to have anticipated and submitted comment on an error that EPA *had not yet committed* during the public comment period, but committed for the first time in the Final Rule.

Western Farmers therefore had no meaningful opportunity to comment on the final allocations. EPA did not provide notice of or seek comment on the possibility of switching from *multiple* to *single* historic baseline years, or from using *both* CAMD and EIA data to *only* CAMD data. Had EPA done so, Western Farmers would have submitted comments that these changes would arbitrarily and unfairly penalize the Anadarko Plant units. As it stands, Western Farmers was caught by surprise by the new unit-level allocation data inputs. EPA may not "use the rulemaking process to pull a surprise switcheroo on regulated entities." *Env'tl. Integrity Project*, 425 F.3d at 998.

EPA's data errors have left Western Farmers with a major and unexpected allowance shortfall for the 2017 ozone season. Correcting these errors is critical to Western Farmers' ability to plan for and achieve compliance with the CSAPR Update Rule, especially given the extremely near-term compliance timeframe for the 2017 ozone season.

D. EPA Should Correct These Technical Errors Through a Direct Final Rule

EPA should issue these technical corrections through a direct final rule as an alternative to full notice-and-comment rulemaking.²⁷ Direct final rules rely on the Administrative

²⁶ The only difference between the Proposed and Final Rule was a one-year shift in the relevant baseline periods. Because 2015 data was not yet available, the Proposed Rule calculated allowance allocations based on a 2010-2014 heat input baseline period, and a 2007-2014 NOx emissions baseline period. The Final Rule uses a 2011-2015 heat input baseline period and a 2008-2015 NOx emissions baseline period. See Allocation TSD at 6.

²⁷ A direct final rule is "a rule that is issued in final form, without prior notice and comment, that becomes effective on a particular date unless adverse comment is submitted within a specified period of time." EPA Office of General Counsel, *Direct Final Rulemaking Guidance for EPA Rule Writers*, Attachment 1, § 2 (1998). Available at <https://yosemite.epa.gov/oaqps/rdms.nsf/591caf4ab155e210852566de00539f57/c92ad1453ad5de6885256728006a0f30!OpenDocument> ("Direct Final Rulemaking Guidance"). In conjunction with a direct final rule, EPA's typical practice is to simultaneously publish a separate, parallel proposed rule. If EPA receives significant adverse comments on the direct final rule, the Agency will withdraw the direct final rule and address the public comments in a subsequent final rule based on the parallel proposed rule. *Id.* at § 4. Western Farmers encourages EPA to act on this parallel tract to ensure the most efficient and timely resolution of EPA's data errors.

Procedure Act’s “good cause” exemption from notice-and-comment rulemaking,²⁸ while giving the Agency “the benefit of any public input that may unexpectedly surface.” Direct Final Rulemaking Guidance at § 2 (citation omitted). EPA uses direct final rules for “noncontroversial rules where [the Agency does not] expect adverse comment,” including routine or minor actions. *Id.* at §§ 4, 6. EPA previously has issued direct final rules under the CSAPR program. *See, e.g., Revisions to Federal Implementation Plans To Reduce Interstate Transport of Fine Particulate Matter and Ozone*, 77 Fed. Reg. 10,342 (Feb. 21, 2012). Here, the corrections to EPA’s allocation calculations are a non-controversial, minor action unlikely to attract adverse comment because they (1) would affect only a subset of units within a single state; and (2) are necessary to correct clear technical errors in EPA’s application of the Final Rule’s allocation methodology.

Further, time is of the essence. A direct final rule generally is a more efficient procedural mechanism than notice-and-comment rulemaking. The 2017 ozone season begins in just over five months. Western Farmers needs to get the correct amount of allowances on the books for their units as soon as possible in order to plan, and carry out, its compliance strategy for the 2017 ozone season.

II. OKLAHOMA STATE BUDGET

A. EPA’s New Budget Calculation Method Arbitrarily Slashed Oklahoma’s Budget

Oklahoma’s budget decreased more than that of any other state between the Proposed and Final Rules, dropping by more than 25 percent, from 16,215 tons to 11,641 tons. Oklahoma’s Final Rule budget is also about 49 percent lower than its 2016 ozone season budget, decreasing from 22,694 tons to 11,641 tons.²⁹ In contrast, most (15 out of 22 Group 2) CSAPR Update states saw their budgets *increase* in the Final Rule. Only six other states saw their budgets decrease, but none as significantly as Oklahoma.

The drastic reduction in Oklahoma’s budget was driven by significant revisions EPA made to its budget calculation formula. Most critically, EPA introduced a NO_x emission rate “delta” value that is derived from IPM. For certain states, including Oklahoma, the IPM-predicted emission rates are blatantly arbitrary. When plugged into EPA’s new formula, they significantly *over-predict* available emissions reductions and significantly *under-predict* emissions levels. This results in an unrealistically low state budget. Western Farmers proposes a limited technical fix to EPA’s formula that would help avoid this outcome while preserving EPA’s Final Rule methodology.

²⁸ 5 U.S.C. § 553(b)(3)(B) (Section 553’s notice-and-comment requirement does not apply “when the agency for good cause finds . . . that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest.”).

²⁹ Under the Proposed Rule, this decrease was approximately 29 percent, a less drastic change.

1. EPA's Changes to the State Budget Formula

EPA changed its state budget calculation formula significantly between the Proposed and Final Rules. Specifically, EPA introduced additional variables, including (i) an IPM-derived NOx emission rate “delta,” and (ii) an adjusted historic emission rate based on a newly-developed dataset.

In both the Proposed and Final Rule, EPA set state budgets as the minimum of either:

- (1) Historic actual emissions (2014 for the Proposed Rule; 2015 for the Final Rule); or
- (2) IPM-predicted 2017 emissions.

See 81 Fed. Reg. 74,548. What changed—significantly—between the Proposed and Final Rules is EPA's process for calculating IPM-predicted 2017 emissions.

For the Proposed Rule, EPA's method can be represented by the following formula:

$$\text{IPM-predicted 2017 Emissions (tons)} = (\text{Historic Heat Input, 2014}) \times (\text{IPM Emission Rate, 2017 \$1,300/ton Cost Case})^{30}$$

For the Final Rule, EPA's new method requires a much more complex formula:

$$\text{IPM-predicted 2017 Emissions (tons)} = (\text{Historic Heat Input, 2015}) \times [(\text{Adjusted 2015 Emission Rate}) - [(\text{IPM Emission Rate, 2017 Base Case}) - (\text{IPM Emission Rate, 2017 \$1,400/ton Cost Case})]]^{31}$$

According to EPA, both formulas reflect a basic method of “multiplying historical state-level heat input [*i.e.*, first parentheses on right-hand side of the equations] by state-level emission rates that reflect EGU NOx reduction potential [*i.e.*, second parentheses on right-hand side of the equations, highlighted in yellow].” *Id.* at 74,547. In the Proposed Rule, the “NOx reduction potential” emission rate was represented simply by an IPM Cost Case emission rate. In the Final Rule, the “NOx reduction potential” emission rate is represented by a more complex calculation

³⁰ See *id.* at 74,547 (“[T]he proposed CSAPR Update put forward a methodology to set emission budgets by multiplying monitored historical state-level heat input by model-projected 2017 state-level emission rates. The monitored historical data were based on 2014, which was the most recent complete ozone season dataset at the time of the proposal.”).

³¹ See *id.* (“For the final CSAPR Update rule, the EPA is refining its methodology for establishing emission budgets that reflect EGU NOx reduction potential by using historical state-level NOx emission rates adjusted by modeled NOx reduction potential. Specifically, the final rule’s approach applies the change in modeled 2017 state-level emission rates (the budget-setting base case 2017 projected rates minus the cost threshold modeling 2017 projected rates) to historical 2015 state-level NOx emission rates.”)

involving three variables: an adjusted historic emission rate, an IPM Base Case emission rate, and an IPM Cost Case emission rate. The only other step in the formulas is to multiply the “NOx reduction potential” emission rate by historic heat input to derive IPM-predicted 2017 emissions.

This updated formula reflects a new, multi-step process for calculating the NOx reduction potential emission rate that entails (1) first, calculating a NOx emission rate “delta,” based on the difference between an IPM Base Case emission rate and an IPM \$1,400/ton Cost Case emission rate; and (2) second, applying this “delta” to an adjusted historic emission rate. *See id.* at 74,548. This latter step requires assuming that “the potential of each state to improve its historical NOX rate by the same degree that it is projected to improve its NOX rate when moving between the budget-setting base case 2014 projection and cost threshold projection.” *Id.* at 74,547. Finally, this “NOx reduction potential” emission rate is multiplied by historic heat input. The result is the final IPM-predicted 2017 emissions. As under the Proposed Rule, if this result is lower than historic actual emissions, then EPA bases the final state budget on the IPM-predicted 2017 emissions. If this result is higher than historic actual emissions, then EPA bases the final state budget on actual historic emissions.

Notably, EPA introduced several entirely new variables in the final state budget formula. EPA introduced an IPM Base Case emission rate value into the new formula, while the Proposed Rule included only an IPM \$1,300/ton Cost Case emission rate. The new formula also required the Agency to develop an “adjusted historic dataset” in order to derive the adjusted 2015 emission rate values. *See id.* This adjusted dataset started with actual historic 2015 heat input and NOx emissions data. EPA then adjusted the actual historic data for three categories of “known changes in the power sector occurring between 2015 and 2017”: (1) announced new selective catalytic reduction (“SCR”) at existing EGUs; (2) announced coal-to-gas conversions; and (3) announced retirements. *Id.* According to the Agency, these adjustments “ensure that the emission budgets established by this rule reflect EGU NOX reductions both from already announced power sector changes and further EGU NOX reductions quantified in the EPA’s EGU NOX reduction potential analysis.” *Id.*³²

2. Perverse IPM Result

EPA’s new Final Rule budget-setting methodology yields the following results for Oklahoma:

³² EPA may have relied on inaccurate and over-simplified assumptions in calculating adjusted historic 2015 emission rates. For example, EPA’s assumption that retirements necessarily will lead to a reduction in the state’s average emission rate may not adequately account for the effects of intrastate or interstate load-shifting.

Table 2. Comparison of 2015 Actual, 2015 IPM-Predicted, and 2017 IPM Base Case and Cost Case Results for Oklahoma Under the Final Rule.

	2015 Actual	2015 Actual, Adjusted	2017 IPM Base Case	2017 IPM (Final \$1,400/ton)	CSAPR Budget (Final Rule)
Heat Input (MMBtu)	256,168,790	243,267,181	208,776,019	207,804,804	256,168,790
NOx (tons)	13,922	13,055	16,506	14,720	11,641
Emission Rate (lb/MMBtu)	0.109	0.107	0.158	0.142	0.091

The Perverse IPM Result is highlighted.

Importantly, IPM predicts that the 2017 Base Case emission rate for Oklahoma would be substantially *higher* than the historic actual or adjusted 2015 emission rate. In other words, IPM predicts that in a world without the CSAPR Update Rule, Oklahoma's NOx emission rate would increase from **0.107 lb/MMBtu in 2015 to 0.158 lb/MMBtu in 2017—an increase of over 47 percent in just two years, without any predicted increase in heat input.** Similarly, IPM predicts that the 2017 \$1,400/ton Cost Case emission rate would be substantially higher than the historic emission rate. So, even in a world *with* the CSAPR Update Rule, Oklahoma's NOx emission rate would increase from 0.107 lb/MMBtu in 2015 to 0.142 in 2017—an increase of over 32 percent in just two years, again without any predicted increase in heat input.

The IPM Base Case prediction that the 2017 NOx emission rate will increase to 0.158 lb/MMBtu is perverse, arbitrary, and demonstrably flawed. First, 0.158 lb/MMBtu is a significant increase from both the actual (0.109 lb/MMBtu) and adjusted (0.107 lb/MMBtu) 2015 emission rates. Second, the fact that EPA's adjusted 2015 emission rate is lower than the actual 2015 emission rate shows that EPA anticipates that announced SCRs, conversions, and retirements will *lower* the emission rate by approximately 0.002 lb/MMBtu between 2015 and 2017. This cuts against the IPM prediction of a significant rate increase. Third, CAMD data for 2016 shows a NOx emission rate of 0.101 lb/MMBtu for Oklahoma,³³ which is comparable to (even lower than) the actual or adjusted 2015 emission rates and nowhere near the 2017 IPM Base Case rate of 0.158 lb/MMBtu. Fourth, the IPM prediction would require rapid degradation and/or shut-down of existing NOx control technology in Oklahoma. The effectiveness of existing NOx controls is highly unlikely to degrade at the fast pace IPM predicts. Indeed, EPA has provided no apparent explanation for why the NOx emission rate would increase so significantly in just two years.

³³ See <https://ampd.epa.gov/ampd/>.

For similar reasons, the IPM Cost Case prediction that the 2017 NO_x emission rate will increase to 0.142 lb/MMBtu also is arbitrary and demonstrably flawed. Further, comparing the IPM Cost Case emission rate with the emission rate resulting under Oklahoma’s final CSAPR budget indicates that EPA does not trust its own model. If IPM were relatively accurate, the IPM Cost Case emission rate (0.142 lb/MMBtu) would be closer to the final budget value (0.091 lb/MMBtu), *not more than 55 percent greater*. The fact that EPA does not rely directly on the IPM Cost Case emission rate to calculate state budgets (consistent with the Proposed Rule) shows that EPA is aware of the questionable reliability of direct use of IPM emission rate outputs. Nonetheless, EPA relied on these IPM outputs—which are patently arbitrary in Oklahoma’s case—in setting state budgets.

3. Oklahoma’s Budget Calculation

The Perverse IPM Result led to an unrealistically and arbitrarily low budget for Oklahoma. Critically, the Perverse IPM Result overestimates the amount of emissions reductions available in the state. That is, because the IPM Base Case emission rate is unrealistically high, the emission rate “delta” between the 2017 IPM Base Case and Cost Case also is unrealistically high.³⁴ This error—a NO_x emission rate “delta” that is too high—then carries through the entire calculation, ultimately resulting in final IPM-predicted 2017 emissions that are too low. For Oklahoma, these IPM-predicted 2017 emissions were lower than its historic 2015 emissions. Accordingly, EPA set Oklahoma’s final budget equal to these arbitrary and inaccurate IPM-predicted emissions.

Below is a step-by-step overview of EPA’s calculation for Oklahoma. Values affected by the Perverse IPM Result are highlighted:

Values that are **too high** because of the Perverse IPM Result are highlighted in **green**.

Values that are **too low** because of the Perverse IPM Result are highlighted in **red**.

Step 1. Calculate NO_x Emission Rate “Delta” = (IPM Emission Rate, 2017 Base Case) - (IPM Emission Rate, 2017 \$1,400/ton Cost Case)

³⁴ Even if IPM accurately predicted the relative difference between the Base Case and Cost Case emission rates, it would be inappropriate to apply this absolute “delta” value directly to an actual emissions rate. To take a simplified, extreme example: State O has an actual emissions rate of 0.1 lb/MMBtu. IPM predicts a Base Case emission rate of 0.3 lb/MMBtu and a Cost Case Emission rate of 0.2 lb/MMBtu. The “delta” between the IPM rates is 0.1 lb/MMBtu. Applying this “delta” to the historic emissions rates leaves you with an emission rate of 0.0 lb/MMBtu! The moral of the story is that if IPM-predicted rates are unrealistically high, the “delta” between these values is not something that can just be applied to a real emission rate. Indeed, in extreme cases, this “delta” can even be equal to or even bigger than the real emission rate. But if the IPM Base Case rate was effectively “capped” at the historic emission rate (0.1 lb/MMBtu in our example), there is no way the “delta” between the two IPM rates could be greater than the historic rate (the “delta” could only range from 0.0 lb/MMBtu to 0.1 lb/MMBtu in our example). This “capping” is effectively what the proposed scaling fix described below would accomplish.

$$= (0.158 \text{ lb/MMBtu}) - (0.142 \text{ lb/MMBtu})$$

$$= 0.016 \text{ lb/MMBtu}$$

In Step 1, the calculated “delta” value (0.016 lb/MMBtu) is arbitrarily high due to the Perverse IPM Result. Western Farmer’s analysis, discussed in the following section, indicates that a more realistic value would be closer to 0.011 lb/MMBtu—*over 30 percent lower than the current value*. This means that EPA likely has significantly overestimated the amount of emissions reductions available in Oklahoma.

Step 2. Calculate “NOx Reduction Potential” Emission Rate = (Adjusted 2015 Emission Rate) - (NOx Emission Rate “Delta”)

$$= (0.107 \text{ lb/MMBtu}) - (0.016 \text{ lb/MMBtu})$$

$$= 0.091 \text{ lb/MMBtu}$$

In Step 2, applying the too-high “delta” value reduces the adjusted 2015 emission rate by too much—*i.e.*, by an amount greater than what is achievable in reality. This means the resulting “NOx Reduction Potential” emission rate (0.091 lb/MMBtu) is lower than what it should be had EPA relied on a more realistic “delta.” Indeed, an emission rate of 0.091 lb/MMBtu is below even the rate achieved by new SCRs (0.10 lb/MMBtu) and NOx combustion controls (0.15 lb/MMBtu, at best). Achieving this rate on a statewide average basis likely would require shutting down fossil-fuel fired EGUs and constructing a sufficient number of new alternative energy sources to replace generation capacity by 2017.

Step 3. Calculate *IPM-predicted 2017 emissions* = (Historic Heat Input, 2015) x (“NOx Reduction Potential” Emission Rate

$$= (256,168,790 \text{ MMBtu}) \times (0.091 \text{ lb/MMBtu}) / 2000$$

$$= 11,641 \text{ tons}$$

In Step 3, multiplying the too-low “NOx reduction potential” emission rate by historic heat input results in IPM-predicted 2017 emissions that are too low—again, lower than what is achievable in reality. Oklahoma’s final state budget of 11,641 tons likely is unattainable.

To correct the errors associated with the Perverse IPM Result, EPA must adjust the IPM emission rates in Step 1 to more realistic values.

B. Proposed State Budget Fix

Western Farmers proposes a limited adjustment to EPA's budget calculation for Oklahoma and other states affected by the Perverse IPM Result.³⁵ The proposal retains the Final Rule's state budget calculation formula. However, it calls for an additional "scaling" step for states with the Perverse IPM Result ("Scaling Fix"). This Scaling Fix allows EPA to keep the Final Rule's current methodology, but ensures that the methodology is not applied in an arbitrary manner that achieves unrealistic results. *See* Appendix B-1 for detailed calculations.

The proposed Scaling Fix would be applied during Step 1 of EPA's formula (calculation of NOx emission rate "delta"). It has two components:

(1) Scaling 2017 IPM Base Case Emission Rate to Reflect Actual 2015 Data.

Both 2017 IPM Base Case NOx emissions and 2017 IPM Base Case heat input values would be scaled to actual 2015 values. For Oklahoma, NOx emissions would be scaled from 16,506 tons to 13,922 tons. Similarly, heat input would be scaled from 208,776,019 MMBtu to 256,168,790 MMBtu. (Currently, IPM illogically predicts that emissions will increase while heat input will decrease between 2015 and 2017. This makes predicted NOx emission rates unachievable if fuel consumption remains constant in reality. The Scaling Fix reflects relatively flat levels of fuel consumption and emissions over the next two years.) Oklahoma's scaled 2017 IPM Base Case emission rate would be **0.109 lb/MMBtu**.

(2) Scaling 2017 IPM Cost Case Emission Rate, Based on a Scaling Factor Derived From Part 1.

Both 2017 IPM Cost Case NOx emissions and 2017 IPM Cost Case heat input values would be scaled by a scaling factor derived from part one—*i.e.*, by the same relative amount that NOx emissions and heat input were scaled for the IPM Base Case emission rate. For Oklahoma, the scaling factor would be 0.84 for NOx emissions and 1.23 for heat input. Accordingly, NOx emissions (for the 2017 IPM \$1,400/ton Cost Case) would be scaled from 14,720 tons to 12,353 tons. Heat input would be scaled from 207,804,804 MMBtu to 255,435,708 MMBtu. Oklahoma's scaled 2017 IPM \$1,400/ton Cost Case emission rate would be **0.095 lb/MMBtu**.

Then, the NOx emission rate "delta" (Step 1 of EPA's formula) would be calculated based on these scaled IPM emission rates. For Oklahoma, this scaled "delta" value would be **0.011 lb/MMBtu**, *about 31 percent lower than the "delta" value used in the Final Rule (0.016 lb/MMBtu)*. The rest of EPA's formula (Steps 2 and 3) would then be applied as currently described in the Final Rule. This should result in a final budget for Oklahoma of 12,309 tons, or

³⁵ Western Farmers' analysis indicates that the Perverse IPM Result negatively affects the budgets for six other states: Indiana, Kansas, Michigan, Missouri, Mississippi, and Texas.

about 668 additional tons compared to the Final Rule budget. *See* Table 4 below; *see also* Appendix B-1.³⁶

C. The Proposed State Budget Fix Would Preserve Air Quality Benefits

The proposed Scaling Fix would preserve the Final Rule's air quality benefits. Western Farmers analyzed the impact of applying the Scaling Fix to all seven states whose Final Rule budgets are negatively affected by the Perverse IPM Result on reductions of ozone design values (average and maximum) in 2017 at 19 downwind nonattainment and maintenance receptors.³⁷ As Table 3 shows, these results indicate no change in average reduction of ozone average design values, and a minimal decrease in average reduction of ozone maximum design values, from the Final Rule. *See* Appendix C-1 for detailed underlying calculations. If the Scaling Fix is applied *only* to Oklahoma, then there is *no change* in average reduction of ozone average or maximum design values. *See* Appendix C-2 for detailed underlying calculations.

Table 3. Impact of Scaling Fix on Average Ozone Reduction at 19 Nonattainment and Maintenance Receptors, Based on AQAT.

	Historic Actual 2015 (7 States)	Final Rule	Scaling Fix (7 States)	Scaling Fix (Oklahoma Only)
Avg. Reduction of Ozone Average Design Values (ppb)	0.15	0.28	0.28	0.28
Avg. Reduction of Ozone Maximum Design Values (ppb)	0.16	0.29	0.28	0.29

Further, the Scaling Fix would not dramatically increase state budgets. Table 4 shows the impact of applying the Scaling Fix to the seven affected states. As shown, the Scaling Fix generally would raise state budgets to levels somewhere in-between current Final Rule budget and historic emissions levels. For four states, the Scaling Fix would increase Final Rule budgets by less than 100 tons. Oklahoma is the only state whose budget would increase by more than

³⁶ Appendix B-2 shows updated Oklahoma unit allocation calculations using the EIA data-substitution described in Part I and the proposed state budget Scaling Fix. Under this method, the Anadarko Plant units would receive 55, 56, and 60 units each (171 units combined).

³⁷ Western Farmers used the same AQAT-based methodology that EPA describes in the Regulatory Impact Analysis (consistent with the Ozone Transport Analysis Final Rule TSD and the preamble to the CSAPR Update Rule). *See* Regulatory Impact Analysis at 3-9 to 3-10.

500 tons. Overall, the Scaling Fix would increase all seven state budgets by a combined total of just over 1,400 tons.³⁸

Table 4. Impact on State Budgets of Applying the Proposed Scaling Fix.

State	Historic Actual 2015 Emissions (tons)	Final Rule Budget (tons)	Scaling Fix Budget (tons)	Change (Final Rule and Scaling Fix Budget) (tons)
Indiana	36,353	23,303	23,377	74
Kansas	8,136	8,027	8,027	0
Michigan	21,530	17,023	17,377	354
Missouri	18,855	15,780	15,798	18
Mississippi	6,438	6,315	6,336	21
Oklahoma	13,922	11,641	12,309	668
Texas	55,409	52,301	52,591	290
Total	160,643	134,390	135,815	1,425

D. Western Farmers Could Not Have Reasonably Anticipated the Changes in EPA’s Methodology

Western Farmers’ could not have reasonably anticipated that EPA would pull a “surprise switcheroo” and change its state budget calculation methodology so significantly between the Proposed and Final Rules, slashing Oklahoma’s budget by more than 25 percent. In particular, EPA did not provide notice that the Agency would change its formula for calculating model-predicted emissions to include (1) adjusted historic emission rates based on a newly-developed dataset; or (2) IPM-derived emission rate “deltas” that rely on the difference between IPM Base

³⁸ Western Farmers’ preliminary analysis indicates that applying the Scaling Fix to all 22 CSAPR Update states likely would decrease the budgets for 14 out of the 15 states without the Perverse IPM Result (all states but Virginia). However, further state-by-state scrutiny would be needed to ascertain the impact of the Scaling Fix on all CSAPR Update states. Further, Western Farmers notes that the Scaling Fix is specifically designed to address a modeling flaw that is common to a small subset of states. The Scaling Fix may not be appropriate to apply to states without the Perverse IPM Result.

Case and IPM Cost Case emission rates.³⁹ Nor did EPA provide notice that it would finalize a methodology that entailed applying IPM-derived emission rate “deltas” to historic emission rates.⁴⁰ Had EPA done so, Western Farmers would have analyzed and submitted comments on the impact on Oklahoma’s budget of EPA’s unrealistic and arbitrary assumptions, including the Perverse IPM Result.

EPA characterizes the changes in the Final Rule’s formula as a “refinement” to the proposed approach. *See* 81 Fed. Reg. 74,547.⁴¹ However, the alterations go far beyond mere refinements. First, as EPA acknowledges, the Agency had to develop an adjusted historical dataset to derive the adjusted historic emission rates. *Id.* Second, EPA had to add at least two additional steps to its calculation methodology. The Proposed Rule’s methodology consisted of one basic step: multiply historic heat input by an IPM Cost Case emission rate. The Final Rule’s methodology is a complex, three-step process: (1) calculate an emission rate “delta” by subtracting an IPM Cost Case emission rate from an IPM Base Case emission rate; (2) calculate a “NO_x reduction potential” emission rate by subtracting this “delta” from an adjusted historic emission rate; and (3) calculate IPM-predicted 2017 emissions by multiplying the “NO_x reduction potential” emission rate by historic heat input. *Id.* at 74,548. This three-step process, based in part on a newly-developed historical dataset, is no logical outgrowth of the Proposed Rule’s single-step process that did not rely on “adjusted” historic data. For these reasons, EPA must reconsider, at least in the proposed limited fashion, the CSAPR Update Rule.

CONCLUSION

In sum, Western Farmers requests that EPA recalculate (1) unit-level allowance allocations for the Anadarko Plant units, using the data-substitution method called for in Final Rule and based on monthly (not annual), reported (not adjusted) data; and (2) Oklahoma’s state budget, using the proposed limited “scaling” adjustment to the Final Rule’s existing calculation methodology to ensure arbitrary IPM outputs do not distort the calculation.

³⁹ Notably, the Proposed Rule include did not include an IPM 2017 Base Case emission rate in its formula, only an IPM Cost Case emission rate. The IPM 2017 Base Case emission rate is the primary driver of the Perverse IPM Result.

⁴⁰ While EPA sought comment “on all aspects of quantifying state emissions budgets reflecting upwind obligations,” 80 Fed. Reg. 75,739, it is unreasonable to expect that commenters could have anticipated and commented on *all* possible permutations of EPA budget calculation formula. EPA’s blanket request for comment does not amount to notice that the Agency would introduce new variables, complex calculation steps, or underlying datasets—much less all three.

⁴¹ EPA further asserts that the “final rule methodology for setting emission budgets reflects the CSAPR Update proposal in that it retains the approach of multiplying historical state-level heat input by state-level emission rates that reflect EGU NO_x reduction potential.” *Id.* As EPA seems to implicitly acknowledge, any methodological similarities between the two approaches exist at only a very high level. Critically, as discussed above, EPA’s approach for determining “state-level emission rates that reflect EGU NO_x reduction potential” changed dramatically between the Proposed and Final Rule.

Dated: December 22, 2016

Respectfully submitted,

/s/ Brian Hobbs

Brian Hobbs

VP, Legal & Corporate Svcs.

Western Farmers Electric Cooperative

Enclosures (CD-Rom):

Appendix A-1:	Unit-Level Allocations with EIA Substitution (Final Rule)
Appendix A-2:	EIA Data Substitution Calculations
Appendix B-1:	Revised Appendix E State Budgets (Scaling Fix)
Appendix B-2:	Revised Unit-Level Allocations with EIA Substitution (Scaling Fix)
Appendix C-1:	AQAT (Scaling Fix -- 7 States)
Appendix C-2:	AQAT (Scaling Fix -- Oklahoma Only)

Message

From: Thompson, Ryan [thompsonr@akingump.com]
Sent: 4/28/2017 4:18:51 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]
Subject: AXP: Thank you

Mandy and Brittany,

Thank you both for taking time to meet with the AXP group yesterday - I am sorry I could not be there in person! It sounds like the meeting went very well and please let me know how the group can be helpful to you and the team in the future.

Have a great weekend and thank you again!

-Ryan

Ryan Day Thompson

AKIN GUMP STRAUSS HAUER & FELD LLP

Mobile: +1 202.236.7885 | thompsonr@akingump.com | akingump.com | [Bio](#)

Message

From: David Fialkov [dfialkov@natso.com]
Sent: 5/17/2017 4:00:50 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: Meeting at 2:30 tomorrow

Will do. We are coming with a few more folks than I thought doing my best to narrow it down.

On Tue, May 16, 2017 at 11:16 PM Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Hi David,
Please call 202- 564-1016 for an escort up.
Best,
Mandy

Sent from my iPhone

On May 16, 2017, at 10:57 PM, David Fialkov <dfialkov@natso.com> wrote:

Mandy,

We very much look forward to meeting with you and your team tomorrow (Wednesday) afternoon. Is there a phone number I should call when we arrive or can I just give the folks at the security desk your name and they will handle from there?

Again appreciate you fitting us in with such a busy schedule.

--

David H. Fialkov
Vice President, Government Relations
Legislative and Regulatory Counsel
NATSO, Representing America's Travel Centers and Truckstops
dfialkov@natso.com
(703) 739 - 8501

--

David H. Fialkov
Vice President, Government Relations
Legislative and Regulatory Counsel
NATSO, Representing America's Travel Centers and Truckstops
dfialkov@natso.com
(703) 739 - 8501

Message

From: Braniff, Mimi P [mimi.braniff@delta.com]
Sent: 5/31/2017 7:29:17 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: OMB meeting and 2018 RFS proposed rule
Attachments: Monroe and PES on E0.docx; Monroe and PES on point of obligation.docx

Hi Mandy. Today I took Jeff Warmann (CEO of Monroe Energy) and Greg Gatta (CEO of PES) to meet with OMB to discuss the 2018 volumes and changing the point of obligation. Attached are the two hand-outs we provided them. From our last meeting you indicated the point of obligation is running on a separate track from the 2018 standards. However, when we were with OMB, we pitched the idea of adding language to the proposed rule indicating EPA is continuing to evaluate the issue. We believe this will help keep the price of RINs from skyrocketing. Let me know if you would like us to draft some proposed language. Thanks for considering our request.

Hope you are well! If I can be helpful, let me know.

Mimi

Mimi Braniff |  | Managing Director—Government Affairs
P: 202.243.3580 | 1212 New York Ave NW Ste 200 Washington, DC 20005

Message

From: Spooner, David [David.Spooner@btlaw.com]
Sent: 5/3/2017 10:44:06 PM
To: Schwab, Justin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eed0f609c0944cc2bbdb05df3a10aadb-Schwab, Jus]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Ayoob, Edward [Edward.Ayoob@btlaw.com]
Subject: MACT Standard for Ceramic Tile
Attachments: Tile Council, EPA, Final MACT Rule, Oct 26 '15.pdf

Mandy and Justin,

Barnes & Thornburg works with the Tile Council of North America, the trade association for the ceramic tile industry. The Tile Council and its member companies are in the midst of litigation, challenging the agency's October 2015 final NESHAP for ceramic tile. (Please see attached).

The rule, remarkably, doesn't regulate a single U.S. ceramic tile producer. See Tables 8 and 9 on page 65512 of the attached final rule, in which the EPA estimates that the rule will yield no environmental benefits with respect to the ceramic tile industry. In the industry's humble opinion, the attached was a good example of unnecessary environmental regulation in the prior Administration – a rule with no environmental benefits.

Would you have a few minutes to discuss the attached on Friday or next week? We'll, of course, provide more information, as appropriate, but want to make sure that you're aware of the issue.

Thank you.

David Spooner | Partner

Firm Bio: <http://www.btlaw.com/david-m-spooner/>

Barnes & Thornburg LLP

1717 Pennsylvania Avenue NW, Suite 500, Washington, DC 20006-4623

Direct: (202) 371-6377 | Mobile: (202) 510-3542 | Fax: (202) 289-1330



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Message

From: Hoitsma, Gary [hoitsmag@carmengroup.com]
Sent: 5/24/2017 7:50:59 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Thank You

Mandy:

Thank you again for participating in the meeting last week with the folks from the South Coast AQMD. They were very happy to see you and Ryan, and also, FYI, had other notable meetings with Jim Herz at OMB and with Alex H at CEQ. Appreciate your help as always.

Best,

Gary

Gary Hoitsma
Carmen Group, Inc.
901 F Street, NW, Suite 600
Washington, DC 20004
202-218-4192 office
202-285-4307 cell

Message

From: Michael Stafford [MStafford@ajw-inc.com]
Sent: 5/30/2017 8:14:15 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Request to Schedule a Meeting With You

Mandy:

Hope things are well with you and you're still surviving the madness of things. Again, a sincere thanks for appearing on ICAC's Clean Air Summit Program earlier this month. I hope you and your family had a chance to catch your breath on your Florida trip the following day.

You'll recall that we were taking the ICAC companies to meet with Administrator Pruitt on May 5th for a round table discussion on clean air technologies and issues. It would come to no surprise to you that Administrator Pruitt was very extremely engaged and full of questions for the companies. He specifically requested that we work with ICAC to develop substantive information in the following areas:

- Measurement & Monitoring: Providing information on advancements and opportunities in measurement/monitoring and, ways to better understand background ozone concentrations,
- Global Markets: Identifying ways in which EPA can support the export of American air pollution control products – such as EPA & Dept. of Commerce-convened international technology and innovation conference, reverse trade missions, etc.,
- Domestic Conventional Pollutants: Information regarding opportunities to accelerate attainment (technology advancement, increased deployment),
- Carbon Emissions Management: Perspectives regarding technologies and strategies to improve grid resilience and diversity – including the use of solid fuel – and other energy infrastructure improvements that might be supported through the upcoming Trump infrastructure package.

I wanted to see if you'd have time later this week or next me (accompanied by Chris Hessler of our firm) to come by and update you on ICAC's work to date to respond to the Administrator's information requests. Particularly in the area of engaging with the Dept. of Commerce, which we've already undertaken.

Would also like to update you on the Health Effects Institute (HEI) and their work with the oil and gas industry, which Bob O'Keefe (HEI-VP) briefly mentioned to you following your ICAC panel discussion.

Look forward to hearing from you about getting on your schedule and if you can shoot me a couple of possible times I'll get back to you very quickly to nail something down.

Best regards,

Michael

Michael Stafford
Partner
AJW, Inc.
202-296-8086/Ext. 104 (Office)
202-299-4577 (Cell)



AJW's work focuses on enhancing market opportunities and removing market barriers for innovative technologies.

Message

From: Rebecca Combs-Dulaney [rcombsdulaney@gmail.com]
Sent: 5/30/2017 3:20:57 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Phone call from Erika White

Good morning Mandy,
This morning our environmental engineer Andrew Covington with Allen Co received a call from Erika White in the Atlanta office. She is requesting a letter from SSS providing authorization for Andrew to represent SSS to the EPA on our enforcement issue. For clarification, Andrew has been talking with Erika since the outset of this action and has generated most of the emails between our company, Allen and the EPA Atlanta office.

I'm afraid my call to you has generated hard feelings at the Atlanta office. That was never my intention. We were in a quandary and simply didn't know how to proceed to remedy this situation and were not receiving guidance to do so. As you know we either have to pay the penalty or structure an acceptable SEP. We had already generated \$30,000 in the past year with the back and forth between our environmental firm (Allen), SSS and the EPA. As such would it be your recommendation that we pay the penalty and everyone just move on? This has become far more protracted than we ever envisioned and we simply want to be in compliance.

Sent from my iPhone

Message

From: Fishwick, Claire (DEC) [claire.fishwick@alaska.gov]
Sent: 4/28/2017 4:17:52 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: claire.fishwick@alaska.gov [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=89e6388752db4367aebc2e8b4ef6e462-claire.fishwick@alaska.gov]
Subject: FW: PM2.5 Designations

Importance: High

Good morning Mandy,

Received your voicemail this regarding the call in number for today's meeting. Our participants will call 1-
Personal Phone / Ex. 6 Thanks for setting up the number. It makes it much easier! Claire

From: Edwards, Alice L S (DEC)
Sent: Thursday, April 27, 2017 8:22 AM
To: Fishwick, Claire (DEC) <claire.fishwick@alaska.gov>
Subject: FW: PM2.5 Designations

Alice

*Alice Edwards
 Deputy Commissioner*

*Phone: (907) 465-5065
 Email: alice.edwards@alaska.gov*

From: Gunasekara, Mandy [<mailto:Gunasekara.Mandy@epa.gov>]
Sent: Thursday, April 27, 2017 6:37 AM
To: Hartig, Lawrence L (DEC) <larry.hartig@alaska.gov>; Edwards, Alice L S (DEC) <alice.edwards@alaska.gov>
Subject: PM2.5 Designations

Hi Larry and Alice,

Our program folks passed along your contact information regarding the forthcoming PM2.5 Designations. I'm reaching out from Administrator Pruitt's Office. I am his Senior Policy Adviser for Air. I know you have been talking to our region and local folks regarding the 2006 PM2.5 designations. I'd like to touch base with you before we make this decision final. My goal is to check-in with you and see what we can do to help get your SIPs on an approvable path and discuss timing. My direct is 202-564-2314 whenever you have a moment.

Best,
 Mandy

Message

From: Rob Underwood [runderwood@pmaa.org]
Sent: 5/5/2017 7:39:43 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Washington, Valerie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9d031c02ce3a416dad0d421ee998d5a3-VWASHING]
Subject: RE: Meeting Request

Hi Mandy,

I just received a meeting cancellation from you.

I didn't think we had a meeting then.

Can you meet next week? I'm free all day Tuesday and Wednesday mornings.

Thanks,

Rob Underwood
President
Petroleum Marketers Association of America (PMAA)
1901 North Fort Myer Drive, Suite 500
Arlington, VA 22209
Email: runderwood@pmaa.org
Work: 703.351.8000
Cell: 703.470.4566

From: Rob Underwood
Sent: Monday, May 1, 2017 10:38 AM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Cc: Washington, Valerie <Washington.Valerie@epa.gov>
Subject: Re: Meeting Request

Thx Mandy.

PMAA Regulatory Counsel Mark Morgan and I are free next Tuesday and Wednesday mornings.

Thanks,

Rob

Sent from my iPhone

On May 1, 2017, at 9:26 AM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Hey Rob,

I'm cc'ing Valerie Washington who can help set up a meeting. Valerie, can you arrange a meeting with Rob and myself for the week of the May 8th?

Thanks,
Mandy

From: Rob Underwood [<mailto:runderwood@pmaa.org>]
Sent: Friday, April 28, 2017 12:25 PM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: RE: Meeting Request

Hi Mandy,

Would you be available to chat next Tuesday at 1:30?

Thanks,

Rob Underwood
President
Petroleum Marketers Association of America (PMAA)
1901 North Fort Myer Drive, Suite 500
Arlington, VA 22209
Email: runderwood@pmaa.org
Work: 703.351.8000
Cell: 703.470.4566

From: Rob Underwood
Sent: Monday, April 24, 2017 5:52 PM
To: Gunasekara.mandy@epa.gov
Subject: Meeting Request
Importance: High

Hi Mandy,

I wanted to touch base with you about a rule that was finalized in July 2015 (Underground Storage Tanks). Click [here](#) for more information on the rule.

Would you have some time to chat about this tomorrow afternoon or Wednesday afternoon? I would also like to briefly chat about PMAA's position on the RFS.

Thanks and hope all is well!

Best,

Rob Underwood
PMAA

Rob Underwood
President
Petroleum Marketers Association of America (PMAA)
1901 North Fort Myer Drive, Suite 500
Arlington, VA 22209
runderwood@pmaa.org
703.351.8000 (Office)

703.470.4566 (Cell)

Message

From: McGinnis, Sean [Sean.McGinnis@lakelandgov.net]
Sent: 5/4/2017 4:19:52 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Meeting this morning

Hi Mandy,

I just wanted to thank you again for your time and for listening to our concerns during our meeting this morning. I also appreciated you sharing your viewpoints on how EPA will be working with both regulated interests and the public to reach common goals.

If you ever need the perspective of a small municipal utility, please don't hesitate to reach out to us. We look forward to enhancing our relationship with EPA.

Also, if you find yourself in central Florida again and would like a tour of our facilities, we would love to show you around.

Warmest regards,
Sean

Sean P. McGinnis, CHMM
Environmental Coordinator



501 E. Lemon St. ♦ Lakeland, FL 33801
Ph: 863-834-6169 ♦ Cell: 863-733-6169
sean.mcginis@lakelandelectric.com

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Message

From: Gunasekara, Surya [Surya@mail.house.gov]
Sent: 5/31/2017 12:24:38 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Fwd: POLITICO Pro Breaking News: Trump to withdraw from Paris climate deal

Surya G. Gunasekara
Chief of Staff
Congressman Renacci (OH-16)

Sent from my iPhone

Begin forwarded message:

From: POLITICO Pro Energy <politicoemail@politicopro.com>
Date: May 31, 2017 at 8:18:53 AM EDT
To: <surya@mail.house.gov>
Subject: POLITICO Pro Breaking News: Trump to withdraw from Paris climate deal
Reply-To: POLITICO subscriptions <reply-fe861276736102797d-591782_HTML-638384203-1376319-0@politicoemail.com>

President Donald Trump is planning to pull the United States out of the Paris climate change agreement, according to a White House official, in a move that is certain to infuriate America's allies across the globe and could destabilize the 2015 accord.

The upcoming decision is a victory for the nationalist wing of Trump's White House, including chief strategist Steve Bannon and Environmental Protection Agency leader Scott Pruitt, who argued that the agreement could hobble the president's domestic energy goals. But it's a blow to Trump's daughter Ivanka and son-in-law Jared Kushner, who raised concerns that a withdrawal would damage U.S. relations with European nations and other countries that support the pact.

To change your alert settings, please go to <https://www.politicopro.com/settings>

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This email was sent to surya@mail.house.gov by: POLITICO, LLC 1000 Wilson Blvd.
Arlington, VA, 22209, USA

Message

From: Dain Hansen [dain.hansen@iapmo.org]
Sent: 5/9/2017 1:23:49 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Today...

Hey Mandy,

Hope you are doing well!

Just wanted to circle back regarding this morning. As mentioned earlier, we are meeting with Samantha this morning at 10 am. If you around afterwards, it would be great to chat for a minute. If not, no worries.

Shall I email you when you are wrapping up?

Dain M. Hansen
Senior Vice President
Government Relations
The IAPMO Group
101 Constitution Avenue, NW
Suite 825 East
Washington, D.C. 20001
(202) 445-7514
www.IAPMO.org/GR
www.Twitter.com/IAPMOGR
www.Linkedin.com/in/DainHansen

Message

From: Amy DeArmond [amy.dearmond@leggett.com]
Sent: 5/17/2017 3:04:55 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Brian Diffell (diffell@wtppgroup.com) [diffell@wtppgroup.com]
Subject: Sterling Meeting

Hi Mandy,

Our outside counsel has received an email from an attorney at the Department of Justice asking about Sterling Steel's availability to meet the week of May 29 or June 5 (likely in DC, although that is unconfirmed). I believe this is the meeting amongst you, Region 5, us, and DOJ that you referenced trying to arrange during our last discussion, but would like to confirm that with you prior to responding to DOJ. Thank you!

Best regards,

Amy DeArmond
Government Policy & Legal Affairs Specialist

LEGGETT & PLATT, INCORPORATED

1 Leggett Road · Carthage, MO 64836
417-358-8131 x.2539 · amy.dearmond@leggett.com

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Message

From: Perry, Brent J. [bperry@eastman.com]
Sent: 5/10/2017 11:54:55 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: [I] RE: Appendix W

Thanks so much for the email, Mandy.

I will conference in our HSES guys and leave a message detailing our thoughts. I'll also forward an email I sent to Ryan Jackson earlier in the week explaining concerns with delaying the effective date.

Thanks again.

Best,

Brent

> On May 9, 2017, at 1:49 PM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

>

> Thanks, Surya. Brent, I'm happy to touch base. Give me a call when you have a sec: 202-564-2314. There is a high likelihood I'll be out of the office, but leave a substantive message and follow-up as soon as I can.

>

> Best,

> Mandy

>

> -----Original Message-----

> From: Gunasekara, Surya [mailto:Surya@mail.house.gov]

> Sent: Tuesday, May 9, 2017 1:33 PM

> To: Brent Perry <bperry@eastman.com>

> Cc: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>

> Subject: Appendix W

>

> Hey Mandy,

>

> Brent (cc'ed) and I are playing golf today. He needs to chat with you about an issue in Region 4.

>

> Thanks for helping out.

>

> Surya

>

> Surya G. Gunasekara

> Chief of Staff

> Congressman Renacci (OH-16)

>

> Sent from my iPhone

>

Message

From: Savage, Justin A. [justin.savage@hoganlovells.com]
Sent: 5/4/2017 11:33:44 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Whitfield, Peter C. [peter.whitfield@hoganlovells.com]; Schwab, Justin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eed0f609c0944cc2bbdb05df3a10aadb-Schwab, Jus]
Subject: RE: Holly Frontier - Possible to Reschedule from 5/11 @ 2 pm to 5/12 @ 2 pm?

Hey Mandy,

Sorry for the email barrage. We'll stick to the original date and time, so see ya'll @ May 11 @ 2 pm for the Holly Frontier RFS meeting.

Thx,
 Justin

From: Savage, Justin A.
Sent: Tuesday, May 02, 2017 12:11 PM
To: 'Gunasekara, Mandy'
Cc: Whitfield, Peter C.; Schwab, Justin
Subject: Holly Frontier - Possible to Reschedule from 5/11 @ 2 pm to 5/12 @ 2 pm?

Mandy,
 Per my VM, any way to reschedule from 5/11 @ 2 pm to 5/12 @ 2 pm for the Holly Frontier RFS meeting?
 Thanks for your consideration,
 Justin

From: Savage, Justin A.
Sent: Friday, April 28, 2017 7:52 PM
To: 'Gunasekara, Mandy'
Cc: Denise.McWatters@HollyFrontier.com; Whitfield, Peter C.; Schwab, Justin; Ward, Erin H.
Subject: RE: HollyFrontier follow-up meeting - May 1, 230 pm

Mandy,

Thanks for letting us know and agreeing to reschedule so quickly. We'll see ya'll May 11 at 2:00 pm.

Take care, and I hope you get to go home soon,

Justin

From: Gunasekara, Mandy [<mailto:Gunasekara.Mandy@epa.gov>]
Sent: Friday, April 28, 2017 7:35 PM
To: Savage, Justin A.
Cc: Denise.McWatters@HollyFrontier.com; Whitfield, Peter C.; Schwab, Justin; Ward, Erin H.
Subject: RE: HollyFrontier follow-up meeting - May 1, 230 pm

Hey Justin,

Sorry if I confirmed previously, but somehow it did not end up on my calendar. As such, I don't have the availability to meet on Monday.

From: Savage, Justin A. [<mailto:justin.savage@hoganlovells.com>]

Sent: Friday, April 28, 2017 9:48 AM

To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>

Cc: Denise.McWatters@HollyFrontier.com; Whitfield, Peter C. <peter.whitfield@hoganlovells.com>; Schwab, Justin <schwab.justin@epa.gov>; Ward, Erin H. <erin.ward@hoganlovells.com>

Subject: RE: HollyFrontier follow-up meeting - May 1, 230 pm

Hi Mandy,

We're looking forward to our meeting on Monday at 230 pm. I understand from Peter that Justin will attend as well. For purposes of planning, these folks will attend the Monday meeting from our end:

- Denise McWatters, General Counsel, Holly Frontier;
- Justin Savage, Hogan Lovells;
- Peter Whitfield, Hogan Lovells; and
- Erin Ward, Hogan Lovells.

Have a good weekend,

Justin

Justin Savage

Partner

Hogan Lovells US LLP

Columbia Square

555 Thirteenth Street, NW

Washington, DC 20004

Tel: +1 202 637 5600
Direct: +1 202 637 5558
Mobile: +1 202 669 6608
Fax: +1 202 637 5910
Email: justin.savage@hoganlovells.com
www.hoganlovells.com

Please consider the environment before printing this e-mail.

From: Savage, Justin A.

Sent: Saturday, April 22, 2017 10:51 AM

To: Gunasekara Amanda "Mandy"

Cc: Denise.McWatters@HollyFrontier.com; Whitfield, Peter C.

Subject: HollyFrontier follow-up meeting - May 1, 230 pm

Hi Mandy,

We'd like to visit with you on May 1 at 230 pm. We look forward to the discussion.

Best,

Justin

Justin Savage
Partner

Hogan Lovells US LLP
Columbia Square
555 Thirteenth Street, NW
Washington, DC 20004

Tel:	<u>+1 202 637 5600</u>
Direct:	<u>+1 202 637 5558</u>
Mobile	<u>+1 202 669 6608</u>
Fax:	<u>+1 202 637 5910</u>
Email:	<u>justin.savage@hoganlovells.com</u> <u>www.hoganlovells.com</u>

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Message

From: Zack Colman Personal Email / Ex. 6
Sent: 5/31/2017 12:18:20 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Paris

Hi Mandy,

Is there any truth to this Axios scoop? Just trying to get my day in order.

<https://www.axios.com/scoop-trump-is-pulling-u-s-out-of-paris-climate-deal-2427773025.html>

-Zack

--

Zack Colman

energy/enviro journalist
Knight Science Journalism fellow at MIT, '15-16
248.563.9744
Twitter: @zcolman

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Message

From: Kyle Harris [kharris@corn.org]
Sent: 5/8/2017 8:50:21 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: David M. (Max) Williamson [maxwilliamson@williamsonlawpolicy.com]
Subject: RE: Biogenic CO2
Attachments: Biogenic CO2 Coalition Comments EPA Significance Rule (filed) (12-16-16)....pdf; Biogenic Letter to Administrator Pruitt.pdf; Biogenic CO2 Coalition Overview .pdf; Biogenic CO2 Coalition Slides (9-21-16).pdf; Biogenic CO2 Case Studies (4-14-16).pdf

Mandy,

I wanted to follow up and confirm that you received the case studies that I sent last week. I can understand how busy you are- and just wanted to make sure they didn't fall unnoticed to the bottom of your email inbox! Attached here should be everything that I have sent your way (or handed in person) regarding Biogenic CO2. Additionally, please find our comments on the proposed significance rule, as it's our most thorough exposition of the legal arguments surrounding this issue.

Attached you will find:

- Letter sent to Administrator Pruitt upon his confirmation
- One-page overview of the Ag-based Biogenic CO2 issue
- Case Studies developed to frame permitting issues we face
- Comments filed on the Proposed Significance Rule
- Slide deck highlighting EPA Actions/Concerns

I hope you find this information helpful, please don't hesitate to reach out should you have any questions or concerns. Again, we look forward to maintaining an open dialogue and we hope to meet with you regarding next steps in the very near future.

Best Regards,

Kyle

Kyle A. Harris, Esq.
 Manager, Environmental Affairs/ Workplace Safety
 Corn Refiners Association
www.corn.org
 1701 Pennsylvania Ave NW
 Suite 950, Washington, DC 20006
 Office: (202) 534-3501
 Cell: (410) 924-2629



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From: Kyle Harris
Sent: Tuesday, May 02, 2017 4:29 PM
To: 'Gunasekara, Mandy' <Gunasekara.Mandy@epa.gov>
Subject: Biogenic CO2

Mandy,

Thank you for meeting with us today. Per our discussion, I wanted to forward you some 'case studies' that we have developed that put a story behind some of the permitting issues that the members of my association, and others in the coalition, have dealt with on a consistent basis.

I look forward to maintaining a dialogue moving forward- please do not hesitate to reach out should you need any further information. We look forward to next steps in getting this issue resolved.

Best Regards,

Kyle

Kyle A. Harris, Esq.
Manager, Environmental Affairs/ Workplace Safety
Corn Refiners Association
www.corn.org
1701 Pennsylvania Ave NW
Suite 950, Washington, DC 20006
Office: (202) 534-3501
Cell: (410) 924-2629



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Message

From: Birsic, Michael J. (MPC) [mjbirsic@marathonpetroleum.com]
Sent: 5/8/2017 3:01:58 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Hupp, Sydney [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d50089ff1a5b4c83baa0160afe2c33cb-Hupp, Sydne]
Subject: RE: [EXTERNAL] Admin. Meeting Request for MPC

Mandy, thank you for the connection. Sydney, great to meet you and appreciate your consideration. Any information you need regarding Gary's trip to DC, please let me know.

Mike

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Monday, May 08, 2017 11:00 AM
To: Hupp, Sydney
Cc: Birsic, Michael J. (MPC)
Subject: [EXTERNAL] Admin. Meeting Request for MPC

Hi Sydney,

Marathon Petroleum Corp.'s CEO, Gary Heminger, will be in town June 20-21 and is looking to meet with the Administrator. I've cc'd Mike Birsic who is a good friend and is the point person for setting this up. Mr. Heminger would like to talk about RFS and air regulations, among other things.

Mike, fill in any missing details.

Sydney, let me know if you need anything else from my end in the interim.

Best,

Mandy

Message

From: Woollums, Cathy S [CSWoollums@berkshirehathawayenergyco.com]
Sent: 5/23/2017 10:51:33 PM
To: Schwab, Justin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eed0f609c0944cc2bbdb05df3a10aadb-Schwab, Jus]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Richards, Jeff [Robert.Richards@pacificorp.com]
Subject: Utah Regional Haze
Attachments: EPA Motion for Extension.pdf

Importance: High

Justin and Mandy – Following up on today's filing with the 10th Circuit (attached), I would propose to have an in-person meeting on June 1, June 2, June 5 or June 6 – either in Salt Lake City or in D.C. Please advise regarding availability on those dates.

Regards,

Cathy S. Woollums
Sr. Vice President, Environmental
and Chief Environmental Counsel
Berkshire Hathaway Energy
106 E. Second Street
Davenport, IA 52801
563-333-8009 (office)
563-320-1505 (cell)
cswoollums@berkshirehathawayenergyco.com

**UNITED STATES COURT OF APPEALS
FOR THE TENTH CIRCUIT**

STATE OF UTAH, on behalf of the
Utah Department of Environmental
Quality, Division of Air Quality,

Petitioner,

CARBON AND EMERY COUNTIES,
UTAH, and UTAH MUNICIPAL
POWER AGENCY,

Intervenors,

v.

UNITED STATES
ENVIRONMENTAL PROTECTION
AGENCY, et al.,

Respondents.

HEAL UTAH, et al.,

Intervenors.

PACIFICORP,

Petitioner,

CARBON AND EMERY COUNTIES,
UTAH, and UTAH MUNICIPAL
POWER AGENCY,

Intervenors,

Case No. 16-9541

Case No. 16-9542

v.

UNITED STATES
ENVIRONMENTAL PROTECTION
AGENCY, et al.,

Respondents,

HEAL UTAH, et al.,

Intervenors.

UTAH ASSOCIATED MUNICIPAL
POWER SYSTEMS,

Petitioner,

CARBON AND EMERY COUNTIES,
UTAH, and UTAH MUNICIPAL
POWER AGENCY,

Intervenors,

v.

UNITED STATES
ENVIRONMENTAL PROTECTION
AGENCY, et al.,

Respondents.

HEAL UTAH, et al.,

Intervenors.

Case No. 16-9543

DESERET GENERATION AND
TRANSMISSION COOPERATIVE,

Petitioner,

CARBON AND EMERY COUNTIES,
UTAH, and UTAH MUNICIPAL
POWER AGENCY,

Intervenors,

v.

UNITED STATES
ENVIRONMENTAL PROTECTION
AGENCY, et al.,

Respondents,

HEAL UTAH, et al.,

Intervenors.

Case No. 16-9545

MOTION TO EXTEND THE BRIEFING SCHEDULE

By Order dated October 6, 2016, this Court entered a briefing schedule in this matter based on a proposal by the parties. ECF No. 01019701675. Under the Order, EPA's brief is due June 2, 2017. EPA hereby seeks a 60-day extension to its deadline, and corresponding extensions to the remaining deadlines in the case. Counsel for EPA has contacted counsel for Petitioners and Respondent-Intervenors. Petitioners do not oppose the motion. Respondent-Intervenors take no position on the motion.

EPA's counsel contacted counsel for Petitioner-Intervenors on the day of filing. Counsel for Petitioner-Intervenors did not respond as of the time of filing. In support of its motion, EPA states the following:

1. As the Court is well-aware, a new Administration took office on January 20, 2017. Scott Pruitt was confirmed as EPA's Administrator on February 17, 2017, and arrived at EPA Headquarters on February 21, 2017. Although additional officials have arrived over the last several months, the Administration has yet to fill many decision-making roles, including for officials that would have direct responsibility for this case.

2. In March, Petitioners and Petitioner-Intervenors filed a total of five briefs (49,363 words combined). In those briefs, Petitioners and Petitioner-Intervenors raised numerous policy-oriented and highly technical issues.

3. EPA is currently considering those issues, in addition to continuing to review the underlying rulemaking in this case. Given the number and complexity of issues raised and the many demands on decision-makers' time during this period of transition, internal deliberations regarding the Agency's path forward on this matter have taken longer than EPA anticipated.

4. EPA is also actively pursuing opportunities to resolve the issues raised in Petitioners' and Petitioner-Intervenors' briefs administratively instead of through litigation. To this end, EPA and Petitioners have initiated a productive dialogue that

may obviate the need for the Court's further involvement and that will benefit from additional time to allow discussions to develop.

5. Petitioners do not oppose EPA's request for a 60-day extension of the litigation deadlines (including EPA's June 2nd deadline for its Opposition Brief) based on EPA's representations that it will engage in discussions about alternatives to the regional haze litigation during this 60-day time period. Petitioners' positions regarding their Motions for Stay, and the need for a stay, remain the same; Petitioners contend that the Court should enter a stay of the compliance deadline for the many reasons discussed in their Motions.

6. Accordingly, EPA requests a 60-day extension to its deadline for submitting its brief, and a corresponding extension to the remaining deadlines in the case. More specifically, EPA requests that an extension be granted as follows:

EPA Response Brief	August 1, 2017
Respondent-Intervenor's Response Brief	August 8, 2017
Utah's Reply	September 19, 2017
Industry Petitioners' and Petitioner-Intervenors Reply Briefs	September 26, 2017
Joint Deferred Appendix	October 24, 2017
Final Briefs	November 13, 2017

The requested extension will ensure that EPA has adequate time to fully brief the Administrator and other decision-makers regarding the issues in the case and fully develop the Agency's positions with regard to those issues.

Dated: May 23, 2017

Respectfully submitted,

BRUCE S. GELBER
Deputy Assistant Attorney General
Environment and Natural Resources Division

/s/ Stephanie J. Talbert
STEPHANIE J. TALBERT
United States Department of Justice
Environment & Natural Resources Division
Environmental Defense Section
999 18th Street, South Terrace, Suite 370
Denver, CO 80005
(303) 844-7231
Stephanie.Talbert@usdoj.gov

/s/ Debra J. Carfora
DEBRA J. CARFORA
United States Department of Justice
Environment & Natural Resources Division
Environmental Defense Section
601 D Street, NW, Suite 8000
Washington, DC 20004
Tel: (202) 514-2640
debra.carfora@usdoj.gov

Counsel for Respondents

Certification for ECF Pleading

Pursuant to CM/ECF User Manual Section II(I), I hereby certify that all required privacy redactions have been made; that, if required to file additional hard copies, the ECF submission is an exact copy of those hard copy documents; and that the ECF submission was scanned for viruses with Microsoft's Forefront Client Security, Version 4.9.219.0, which is updated daily, and, according to the program, is free of viruses.

Dated: May 23, 2017

/s/ Debra J. Carfora

DEBRA J. CARFORA

United States Department of Justice

Environment & Natural Resources Division

Environmental Defense Section

601 D Street, NW, Suite 8000

Washington, DC 20004

Tel: (202) 514-2640

debra.carfora@usdoj.gov

Counsel for Respondents

Certificate of Service

I hereby certify that I electronically filed the foregoing MOTION TO EXTEND BRIEFING SCHEDULE with the clerk of the court for the United States Court of Appeals for the Tenth Circuit using the electronic case filing system of the court. Participants in the case who are registered CM/ECF users will be served by the CM/ECF system. The following will be served by mail:

Bryce Bird
Utah Department of Air Quality
P.O. Box 144820
Salt Lake City, UT 84114-4820

Mason Baker
General Counsel
Utah Associated Municipal Power Systems
155 North 400 West, Suite 480
Salt Lake City, UT 84103

Kate Comerford Todd
Sheldon B. Gilbert
Steven P. Lehotsky
U.S. Chamber Litigation Center
1615 H Street, NW
Washington, DC 20062-2000

Julia B. Barber
Balch & Bingham
1901 6th Avenue, North, Suite 1500
Birmingham, AL 35203

Alex Bond
Emily Fisher
Edison Electric Institute
701 Pennsylvania Ave. NW
Washington, DC 20004-2696

Robert Meyers
Mark Thomson
Crowell & Moring
1001 Pennsylvania Avenue, NW

Suite 1100
Washington, DC 20004
Email: RMeyers@crowell.com

Dated: May 23, 2017

/s/ Debra J. Carfora
DEBRA J. CARFORA
United States Department of Justice
Environment & Natural Resources Division
Environmental Defense Section
601 D Street, NW, Suite 8000
Washington, DC 20004
Tel: (202) 514-2640
debra.carfora@usdoj.gov

Counsel for Respondents

Message

From: Jan Brunner [info@mailva.evite.com]
Sent: 5/19/2017 6:06:54 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Event Reminder: Cheese, chocolate, wine...Fondue-orama!



Reminder! Upcoming Event
Jan Brunner invited you to **Cheese, chocolate, wine...Fondue-orama!**
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Message

From: Big Data - Transforming Government Workshop [Training@BigData.PotomacForum.org]
Sent: 5/3/2017 3:42:55 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: [SPAM] Practical Info: Using Big Data to Transform Government





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Potomac Forum Training Workshop

Transforming Government with Big Data Training Workshop
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Date: Wednesday, May 23, 2017

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**Latest information on Federal Big Data Strategic Plan and the Federal Artificial
Intelligence R&D Strategic Plan Initiatives.**

The Federal Government is one of the largest producers of data in the world. Big Data is transforming every agency across Government and many have already appointed Federal Chief Data Officers (CDO's) in response to OMB guidance. Federal agencies are using Big Data to transform government mission in scientific discovery, environmental and biomedical research, education, transportation and national security. Workshop details the role of agency CDO's in this transformation, describes the key tools and methods agencies are using to accelerate mission effectiveness and what is required to develop a successful Federal Agency Big Data transformative strategy.

**Registration includes authored white papers entitled,
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Cognitive Assisted Internet of Things (IoT)"**

Overview:

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This event is not a vendor conference, but a training course that provides practical information for the Government and Industry on Big Data, the Federal Governments Big Data and Artificial Intelligence Strategic initiatives and what agency leaders can or should be doing now. No marketing or sales at 100% educational workshops.

What You Will Learn:

- Understand Big Data issues and opportunities
- Understand Federal Big Data Strategic Plan
- Why Big Data is important to Government transformation
- What is Artificial Intelligence in Government
- Using Machine Learning and Cognitive Computing to Transform the mission
- Big Data Lessons Learned

Why You Should Attend:

- Understand Federal Big Data concepts and familiarize students with the Government Big Data Strategy
- Understand the role of Federal CDO's, why they are important to transforming Government
- Understand the AI R&D Strategic Plan, the impact to agency missions and what how to develop a Federal AI Roadmap

Who Should Attend:

- CDOs, Data Scientists and Staff
- CIOs and Staff
- IT practitioners
- Program Managers
- IGs and Staff
- Acquisition and Contracting Staff
- Government Employees who want to better understand Big Data
- Industry and Contractors who support the government and need to better understand Big Data at a detailed level
- IT Security Staff
- All government and industry members who need to understand Big Data and how it applies to the government mission.

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Potomac Forum, Ltd.

This email was sent by: **Potomac Forum, Ltd.**
400 North Washington Street , Alexandria , Virginia, 22314 , USA

Message

From: Birsic, Michael J. (MPC) [mjbirsic@marathonpetroleum.com]
Sent: 5/8/2017 3:01:15 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: [EXTERNAL] Admin. Meeting Request for MPC

Again, you are the best!

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Monday, May 08, 2017 11:00 AM
To: Hupp, Sydney
Cc: Birsic, Michael J. (MPC)
Subject: [EXTERNAL] Admin. Meeting Request for MPC

Hi Sydney,

Marathon Petroleum Corp.'s CEO, Gary Heminger, will be in town June 20-21 and is looking to meet with the Administrator. I've cc'd Mike Birsic who is a good friend and is the point person for setting this up. Mr. Heminger would like to talk about RFS and air regulations, among other things.

Mike, fill in any missing details.

Sydney, let me know if you need anything else from my end in the interim.

Best,

Mandy

Message

From: Shepherd, Ray [rayshepherd@peabodyenergy.com]
Sent: 5/5/2017 6:36:18 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: AZ Capitol Times: To Ensure Reliability, Keep Navajo Generating Station Operating
Attachments: 050417 Capitol Times Grid Reliability Bearson.pdf

Mandy—

Hope you are doing well (sounds like you were busy in FL). Attached please find a guest opinion in the Arizona Capitol Times from Darren Bearson on the importance of NGS, emphasizing energy diversity and reliability for Arizona and noting the importance of the Navigant study. Bearson was an advisor to the Secretary of Energy and previously with ACCCE. Thanks for your leadership.

BTW—we met with Ryan and thanked him for your efforts. Have a great weekend.

Ray Shepherd

Vice President & Senior Counsel, Federal Government Affairs

Peabody Energy Corporation

801 PA Avenue, NW | Suite 212 | Washington, DC 20004

Phone: (202) 942-4301 | Cell 202-765-8680

rayshepherd@peabodyenergy.com



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To ensure grid reliability, keep Navajo Generating Station operating

By: Guest Opinion May 4, 2017, 6:00 pm

OPINION

The state of Arizona – much like the rest of the nation – is at an energy crossroads. As demand for electricity grows, residents and policymakers are wrestling with questions that will define the future of the state's energy grid, and will determine Arizona's ability to keep its lights on and its economy vibrant in the years to come.

At the heart of the discussion is the Navajo Generating Station, the largest coal-fired power plant in the West. The plant's owners recently voted to close the plant ahead of schedule, in 2019, but stakeholders – from tribal communities to energy analysts and workers to federal and state regulators – have pressed, since the vote, to find pathways to sustain operation beyond the premature close date.

Arizonans have significant reason to hope that they succeed in their effort, given the crucial role that the plant is projected to play in the future of the state's – and indeed the entire region's – energy grid reliability. And a new study, prepared by Navigant Consulting, shows clearly that continued operation of the plant would be economically competitive relative to alternative sources like natural gas.

It is difficult to overstate the stakes of the debate, and the importance of the plant's future to the region's energy outlook. Coal has served as the baseload fuel for Arizona for decades. The Navajo Generating Station, in particular, plays an indispensable role providing power not just to household and business consumers, but also to the Central Arizona Project, which uses the plant's power to pump water to customers in Phoenix and Tucson.

Those who support the plant's closure say that natural gas will serve as an affordable replacement for the immense baseload power that has been churned out for decades by the Navajo Generating Station. But others aren't so sure, and worry that in turning its back on coal, Arizona is setting itself up for a future plagued by an unreliable power grid subject to volatile prices and inconsistent supply.

Andy Tobin, a member of the Arizona Corporation Commission, points out that losing the Navajo Generating Station's capacity would leave the state **disproportionately reliant upon natural gas and solar imports**, a particularly concerning dynamic given that nearly all of Arizona's supply of natural gas is imported, with 70 percent coming from a single source in the El Paso Pipeline.

A more diverse energy portfolio – one that continues to draw significant baseload power from the Navajo Generating Station – would position the state better for the future, and would serve as a critical guard against natural gas price fluctuations.

Natural gas, after all, has been historically cheap in recent years, but is notoriously volatile in its price structure. As coal-fired plants continue to be knocked offline, and as demand for natural gas increases amid rising demand from

heavy industry and expanded levels of exported liquefied natural gas (LNG), analysts expect the price of the commodity to rise steadily.

The Navajo Generating Station would guard against such price increases, protecting consumers in Arizona and throughout the Southwest from price spikes and the possibility of interrupted power supply. One of the most significant benefits to coal-fired power like that provided by the Navajo Generating Station is its intrinsic reliability. The sudden shutdown of the power plant – and the resulting turn to a greater reliance on less stable sources of energy – could have a negative impact on Arizonans.

Analysis conducted by Navigant research makes it clear that the plant can be economically competitive with natural gas and other coal alternatives through 2040. In fact, beyond being competitive, their analysis finds that NGS would actually cost nearly \$400 million less to operate than it would cost to replace the plant's energy and capacity from 2020 through 2040.

This means that in addition to being more reliable than alternatives, continued operation of the Navajo Generating Station would also be more affordable both to ratepayers and to the plant's future owners and operators.

Energy policy is complex, and no single power source is a cure-all. But that complexity adds to the case for continued operation of the Navajo Generating Station. The plant is well-positioned to continue to deliver affordable, reliable power – in addition to jobs and economic input – to consumers across the Southwest for decades to come.

It is imperative that stakeholders continue to work together to secure the plant's future and, in doing so, help ensure the energy diversity that Arizona needs to maintain a bright economic future.

— *Darren Bearson, a former senior adviser to U.S. Energy Secretary Sam Bodman, is the founder and president of Compass Point Strategies.*

The views expressed in guest commentaries are those of the author and are not the views of the Arizona Capitol Times.

Message

From: Schemmel, Nick [Nick.Schemmel@mail.house.gov]
Sent: 5/25/2017 3:10:03 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Draft Legislation - Greenhouse Gas Emissions and Self-Propelled Vehicles
Attachments: Draft Legislation - Greenhouse Gas Emissions and Trailers.pdf

Hi Mandy,

Your contact information as passed along to me as I understand your portfolio would cover Clean Air Act issues. I wanted to reach out to discuss the attached draft legislation that my boss is interested in pursuing. If you have some time tomorrow or next week to review and discuss this, I'd love to chat briefly about this approach and EPA's take on it. Please let me know if any those dates or times could work for you.

My direct is Personal Phone / Ex. 6, thanks!

Nick Schemmel
Rep. Earl L. 'Buddy' Carter (GA-01)
432 Cannon House Office Building
Washington, D.C. 20515
202-225-5831



Message

From: Duane Desiderio [ddesiderio@rer.org]
Sent: 5/25/2017 10:09:17 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Message from The Real Estate Roundtable -- Thank You for Talking Today -- Invite to Our Sustainability Committee Meeting in DC on Wed, June 14
Attachments: FINAL EPA Reg Evaluation Comments from Real Estate Industry FILED 05-15-17.pdf; EStar NREO Letter -- FINAL 03-30-17.pdf; SPAC-1-23-17.pdf

Hello Mandy –

I wanted to send a quick note to thank you for talking earlier today regarding the ENERGY STAR program. It was nice of you to take the time out of your very busy schedule.

Attached are two letters recently sent by The Roundtable and other national real estate groups:

- Letter to Capitol Hill appropriators making the jobs, business, and economics case for the ENERGY STAR buildings program.
- Letter to EPA regarding our industry's collective ideas for regulatory reform regarding WOTUS, and long-simmering lead-based paint regulations over commercial building renovations (while also expressing support for ENERGY STAR).

If it is ever useful to you or your other administration colleagues to meet with representatives from these real estate groups, please let me know. We would welcome any opportunity for our industry to meet with you collectively on these and other EPA regulatory matters that affect real estate development, construction, ownership – and the jobs our sector creates.

Specifically on behalf The Real Estate Roundtable (www.rer.org) and our Sustainability Policy Advisory Committee (SPAC), I also wanted to invite you to **our upcoming meeting to be held at the Four Seasons hotel in DC (Georgetown) on Wednesday, June 14 from 8:30 – 11:30 am.**

SPAC is comprised of the chief sustainability management executives at the nation's top real estate firms. Attached is our latest committee roster. Our chair is Tony Malkin, the Chairman and CEO of [Empire State Realty Trust](#), which owns (among other buildings) the Empire State Building. Under Tony's leadership, the ESB underwent a massive job-creating [energy efficiency retrofit project](#). That project is emblematic of much of the innovation and job creation that SPAC members are spearheading in real estate projects across the country.

Staff from EPA, DOE and other federal agencies attend our SPAC meetings on a regular basis. They plan to attend our upcoming June 14 meeting as well.

If you have any time to attend even a short a portion of our June 14 meeting we'd be honored to have you. If you care to provide an update on the Administration's environmental priorities, our group would certainly welcome hearing your perspectives. If you only wish to come as an observer, and listen to what's on the minds of the nation's top real estate executives in the energy and sustainability arena, we'd certainly welcome that opportunity as well.

I hope we can coordinate going forward. Please let me know if you are interested in attending the SPAC meeting on June 14 – or if you would like more information about RER, our members generally, and our energy and sustainability policy initiatives.

Best regards,

Duane

Duane J. Desiderio
Senior Vice President and Counsel



The Real Estate Roundtable

The Real Estate Roundtable

p: (202) 639-8400

f: (202) 639-8442

ddesiderio@rer.org

www.rer.org

Market Square West
801 Pennsylvania Avenue, NW
Suite 720
Washington, DC 20004

**Real Estate Industry Supports
ENERGY STAR Funding in EPA's FY'18 Budget**

March 30, 2017

The Honorable Thad Cochran
Chairman, Appropriations Committee
U.S. Senate

The Honorable Patrick Leahy
Ranking Member, Appropriations Committee
U.S. Senate

The Honorable Rodney Frelinghuysen
Chairman, Appropriations Committee
U.S. House of Representatives

The Honorable Nita Lowey
Ranking Member, Appropriations Committee
U.S. House of Representatives

The Honorable Lisa Murkowski
Chairman, Interior and Environment
Appropriations Subcommittee
U.S. Senate

The Honorable Tom Udall
Ranking Member, Interior and Environment
Appropriations Subcommittee
U.S. Senate

The Honorable Ken Calvert
Chairman, Interior and Environment
Appropriations Subcommittee
U.S. House of Representatives

The Honorable Betty McCollum
Ranking Member, Interior and Environment
Appropriations Subcommittee
U.S. House of Representatives

Dear Chairmen and Ranking Members:

Our undersigned organizations represent the U.S. real estate industry. We represent members involved in almost every aspect of residential and commercial real estate development, design, construction, ownership, management, finance, brokerage, contracting, renovation, and building product supply. Our members provide the homes, apartments, offices, health care facilities, hotels, shopping malls, and industrial sites where the American people live, work, and play.

We support the ENERGY STAR buildings program run by the Environmental Protection Agency (EPA). We urge Congress to maintain the program's funding at its current levels in FY'18. ENERGY STAR is the pre-eminent program to foster high performance in U.S. buildings, help create jobs in the energy efficiency field, improve the nation's energy security—and save money for families and businesses.

Please consider the business and economics case for the ENERGY STAR program:

- ***ENERGY STAR is a voluntary program that fosters partnerships with private sector companies to avoid energy waste.*** It encourages energy savings and innovation driven by free-market demand, not through federal regulations or mandates. Created in 1992, 85% of consumers now recognize ENERGY STAR as a trustworthy brand. More than 7,400 partner organizations – including 57% of the Fortune 100® – participate in the ENERGY STAR program. Real estate businesses use it to give their properties

ENERGY STAR Program—FY'18 Funding Supported by U.S. Real Estate Industry
Letter to Senate and House Appropriators
March 30, 2017
Page 2

a competitive advantage in markets across the U.S. to brand their assets as leaders in innovation and energy efficient building technologies. Currently, 29,500 buildings representing 4.34 billion square feet of buildings are ENERGY STAR certified.

- ***ENERGY STAR provides well-paying American manufacturing, construction, and service jobs.*** An estimated 2.2 million jobs are attributable to employment in the energy efficiency field. Manufacturing, construction, and retrofitting related to ENERGY STAR products and services account for a great majority of these jobs. The number of these jobs is growing as innovations rise related to energy efficient equipment and building technologies.
- ***ENERGY STAR saves billions of dollars for families and businesses on monthly bills.*** In 2015 alone, U.S. businesses cumulatively saved \$3.4 billion on utility bills through the ENERGY STAR buildings program. Families and businesses have saved more than \$430 billion dollars in utility bills since the program's start. Additionally, apartment properties that receive the ENERGY STAR designation can qualify for concessional financing terms because lenders understand that the ENERGY STAR rating is a surrogate for a carefully managed asset.
- ***ENERGY STAR enhances the nation's energy security and encourages resilient buildings and infrastructure.*** In 2014, EPA's ENERGY STAR efforts helped Americans save more than 360 billion kilowatt-hours (kWh)—about 5 percent of total U.S. electricity demand at minimal cost to taxpayers. Avoiding energy use, and reducing wasteful electricity and gas consumption, as enabled by ENERGY STAR makes our country more secure. Moreover, ENERGY STAR's platform for reduced energy use places less strain on the electricity grid and makes our nation's centralized power infrastructure more resilient.
- ***ENERGY STAR buildings tend to be sought by certain institutional investors.*** A growing number of domestic and overseas investors—such as banks, pension plans, mutual fund managers, endowments and sovereign wealth funds—who invest in U.S. real estate look for buildings that are both profitable and sustainable. ENERGY STAR-rated buildings have thus become an important indicator for profitable and sustainable real estate assets. A number of studies show that ENERGY STAR buildings command higher rents from commercial tenants who commit to longer lease terms compared to non-certified buildings. Moreover, a burgeoning number of corporate reporting and disclosure standards align with ENERGY STAR ratings as a signal for investors seeking metrics for top performing buildings.
- ***ENERGY STAR establishes a real estate industry standard to measure energy and water use in buildings.*** Often called “TurboTax for energy management,” Portfolio Manager is EPA's free, online tool for building owners and managers to understand how their properties operate and how to improve their economic performance. Fifty percent of U.S. commercial floor space uses Portfolio Manager to track energy, water and waste consumption. Approximately 500,000 buildings representing 44 billion square feet of commercial floor space use EPA's benchmarking tool. Half of the Fortune 100®, half of

ENERGY STAR Program—FY'18 Funding Supported by U.S. Real Estate Industry
Letter to Senate and House Appropriators
March 30, 2017
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the largest U.S. healthcare organizations, major league sports teams, colleges and universities, and entire cities use Portfolio Manager.

- ***ENERGY STAR is the basis for overwhelmingly bipartisan legislation that Congress passed last term.***
 The signature energy policy of the 114th Congress is the “Energy Efficiency Improvement Act” (H.R. 2126), which passed the House in 2014 by an overwhelming bipartisan margin (375-36), and then the House again and the Senate by simple voice votes in each chamber in 2015. The bill creates a program called “Tenant Star” intended by Congress to amplify ENERGY STAR’s impressive successes at the “whole building” level and translate the platform for optimal energy efficiency for leased spaces within commercial buildings. De-funding ENERGY STAR would undermine Congress’s key “Tenant Star” achievement.

Thank you for considering our organizations’ request to continue the necessary financial support for the ENERGY STAR program.

Cc: Members of the Appropriations Committees of the
 U.S. Senate and U.S. House of Representatives

American Hotel & Lodging Association
American Institute of Architects
American Seniors Housing Association
Building Owners and Managers Association (BOMA) International
Institute of Real Estate Management
International Council of Shopping Centers
Leading Builders of America
NAIOP, Commercial Real Estate Development Association
National Apartment Association
National Association of Home Builders
National Association of Real Estate Investment Trusts
National Leased Housing Association
National Multifamily Housing Council
Real Estate Board of New York
The Real Estate Roundtable



May 15, 2017

**Comment letter Filed at <http://www.regulations.gov>
Docket ID No. EPA-HQ-2017-0190**

Ms. Sarah Rees, Director
U.S. Environmental Protection Agency
Office of Regulatory Policy and Management
Office of Policy
1200 Pennsylvania Ave., NW
Washington, DC 20460

Re: “Evaluation of Existing Regulations”
82 Federal Register 17,793 (April 13, 2017)

Thank you for the opportunity to provide comments regarding the above-referenced Federal Register notice.¹ Our organizations represent the U.S. real estate industry with members involved in virtually every aspect of residential and commercial development, construction, ownership, management, finance, brokerage, contracting, renovation, and building product supply. Our members provide the homes, apartments, offices, health care facilities, hotels, shopping malls, and industrial sites where the American people live, work, and play.

Over the past eight years, we have developed unified policy positions concerning the EPA matters discussed below. As the agency evaluates its existing regulations and programs, our organizations recommend and re-iterate the following:

¹ Some of our organizations are also members of other coalitions that plan to respond to, or submit their own individual comments regarding, the Federal Register notice at issue. These comments enhance and supplement any other comments submitted by our organizations.

Real Estate Industry Comments—EPA’s “Evaluation of Existing Regulations”

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(1) EPA should halt efforts toward regulating renovation, repair and painting (“RRP”) activities in public and commercial buildings. After considering this matter for many years, EPA has failed to conduct a national survey to identify prevalence of lead paint in public and commercial buildings, and failed to make the requisite finding under the Toxic Substances Control Act that routine property maintenance and RRP activities create lead-based paint hazards that threaten children’s health. Absent such a statutorily required hazard finding, EPA lacks authority to regulate the commonplace renovations and painting projects that occur on a day-to-day basis throughout the nation’s stock of public and commercial buildings.

(2) EPA should avoid “double regulations” and clarify that systems owned and operated by cities and municipalities to treat and convey stormwater runoff are not waters of the U.S. (“WOTUS”). The Clean Water Act already regulates these stormwater systems as “point sources” that require pollutant discharge permits. Moreover, municipal storm sewer drains, ditches and pipes are covered by EPA’s long-standing rule that “waste treatment systems” are *not* WOTUS.

(3) EPA should continue funding and implementing the non-regulatory, market-driven ENERGY STAR program. A strong jobs and business case supports EPA’s program to encourage voluntary “labels” that distinguish innovative, energy efficient buildings in the real estate marketplace. ENERGY STAR-rated assets attract commercial tenants, appeal to investors, and save businesses billions of dollars each year on utility bills. Furthermore, ENERGY STAR rated homes and appliances are recognized by more than 85% of consumers as an indication of value due to utility cost avoidance.

On prior occasions, we have expressed our organizations’ shared perspectives on these matters through regulatory comments, public meetings, and other forums. Attached to this submission are some of our earlier letters providing more analyses and details. We appreciate this opportunity to again summarize our positions.

(1) EPA should cease any lingering efforts to regulate renovation and remodeling activities in public and commercial buildings, because the agency has never developed scientific findings (required by statute) that such activities cause lead paint “hazards.”

- Related EPA Dockets:

- “Lead: Renovation, Repair and Painting Program for Public and Commercial Buildings,” Docket ID No. EPA-HQ-OPPT-2010-0173.²
- “Agency Information Collection Activities; Proposed Collection; Survey of the Public and Commercial Buildings Industry” Docket ID No. EPA-HQ-OPPT-2013-0715.³

² See <https://www.regulations.gov/searchResults?rpp=25&po=0&s=EPA-HQ-OPPT-2010-0173&fp=true&ns=true>.

³ See <https://www.regulations.gov/document?D=EPA-HQ-OPPT-2013-0715-0001>.

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- Prior Real Estate Industry Submissions to EPA:
 - Comments of the Commercial Properties Coalition (May 6, 2010)⁴
 - Comments of the Commercial Properties Coalition (April 1, 2013) (*attached hereto*)⁵
 - Comments of the Commercial Properties Coalition (February 4, 2014)⁶
 - Comments of the Commercial Properties Coalition (June 30, 2014)⁷
 - Comments of the Commercial Properties Coalition (Sept. 22, 2014)⁸

Since 2010, our organizations have provided a series of comments to EPA addressing purported lead-based paint hazards in public and commercial (“P&C”) buildings. Despite having more than ample time to do so, EPA has never made a scientific finding that renovation, repair and painting (“RRP”) activities indeed cause such hazards or pose health risks to occupants of P&C structures.⁹ The possibility of unsubstantiated lead paint regulations should no longer loom over the real estate industry—especially where the agency can more strategically devote its limited resources to address pressing and demonstrable lead-related health crises like those affecting Flint, Michigan and other cities with aging drinking water infrastructure.

EPA has repeatedly acknowledged, and the Toxic Substances Control Act (“TSCA”) makes clear, that it has no authority to regulate renovation and remodeling activities in P&C buildings *per se*. Rather, it has regulatory authority over RRP activities only to the extent they cause a lead-based paint hazard. Accordingly, before EPA can regulate RRP activities in P&C buildings or collect information from the public that may justify such a regulation, it must first develop a TSCA section 403 rule to identify whether “dangerous levels of lead” exist in the U.S.’s private sector commercial real estate stock and the buildings owned by federal, state and local government bodies.¹⁰ The Coalition’s April 1, 2013, comments explained:

⁴ See <https://www.regulations.gov/document?D=EPA-HQ-OPPT-2010-0173-0074>.

⁵ See <https://www.regulations.gov/document?D=EPA-HQ-OPPT-2010-0173-0154>.

⁶ See <https://www.regulations.gov/document?D=EPA-HQ-OPPT-2013-0715-0014>.

⁷ See <https://www.regulations.gov/document?D=EPA-HQ-OPPT-2010-0173-0209>.

⁸ See <https://www.regulations.gov/document?D=EPA-HQ-OPPT-2010-0173-0243>.

⁹ On numerous occasions, our organizations have pointed out that P&C buildings with day care centers and other “child-occupied facilities” are, of course, subject to EPA’s current lead-based paint regulations. See April 1, 2013, Comments, at 6-7 (citing 40 C.F.R. §745.83; 40 C.F.R. part 763, Subpart E, Appendix C (interpreting and implementing 15 U.S.C. § 2642(10))). P&C buildings that are neither pre-1978 “target housing” nor contain “child-occupied facilities” cannot be within the scope of RRP regulations without a TSCA section 403 hazard finding—which EPA has never issued because it has never compiled a science-based administrative record to back such a conclusion.

¹⁰ TSCA § 402 (c)(3), 15 U.S.C § 2682(c)(3). The statute defines a “lead based paint hazard” as a “condition that causes exposure to lead... that would result in adverse human health effects as established by the EPA under this

Real Estate Industry Comments—EPA’s “Evaluation of Existing Regulations”

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Further delimiting the scope of EPA’s regulatory authority, a conjunctive reading of TSCA sections 402 and 403 reflects an expected sequence for agency action – requiring EPA first to promulgate regulations that “identify ... lead-based paint hazards,” the results of which are then to be used in determining whether “to apply the regulations to renovations...” in public and commercial buildings, or, alternatively, to determine that certain categories of renovation do not require regulation.¹¹

The only section 403 hazard rule that EPA has issued to date is from 2001. This 2001 hazard rule solely pertains to homes and explicitly states: “[I]t is important to emphasize that this rule *only* applies to pre-1978 target housing and certain child-occupied facilities, and that *these standards were not intended to identify potential hazards in other settings.*”¹² Our organizations have long cautioned against a reductive approach that relies upon studies conducted in residential settings to somehow buttress any public and commercial buildings renovation program.

As EPA’s consideration of this issue approaches a decade, the agency has not met its administrative and legal responsibilities by pointing to residential RRP information and deeming it somehow probative to P&C buildings. Absent any other information showing lead-paint hazards unique to the commercial buildings stock, EPA should abandon remaining efforts to regulate renovation, repair and painting activities in P&C structures.

(2) EPA should revise its WOTUS regulation to clarify that municipal storm sewers, drains and ditches are not jurisdictional waters.

- Related EPA Docket:
 - “Definition of Waters of the United States under the Clean Water Act; Final Rule,” Docket ID No. EPA-HQ-OW-2011-0880¹³
- Prior Real Estate Industry Submission to EPA:
 - Comments of the Coalition of Real Estate (“CORE”) Associations (August 8, 2014) (*attached hereto*)¹⁴

subchapter,” TSCA § 401(10). And to the extent that EPA may now be seeking to base a lead-based paint hazard for P&C buildings on adult, rather than child-targeted exposures, it has made no determination of what levels of exposure would constitute such a hazard or whether it exists in P&C buildings.

¹¹ April 1, 2013, Comments at 53-54.

¹² *Lead; Identification of Dangerous Levels of Lead*, 66 Fed. Reg. 1,206, 1,211, (Jan. 5, 2001), (emphasis added).

¹³ See <https://www.regulations.gov/searchResults?rpp=25&po=0&s=Docket%20ID%20No.%20EPA-HQ-OW-2011-0880&fp=true&ns=true>.

¹⁴ Available at: <https://www.regulations.gov/document?D=EPA-HQ-OW-2011-0880-5175>.

Real Estate Industry Comments—EPA’s “Evaluation of Existing Regulations”

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EPA should expressly clarify its WOTUS rule to state that municipal separate storm sewer systems (“MS4s”)—already regulated as “point sources” under the Clean Water Act (“CWA”)—should not be doubly-regulated as WOTUS. To reduce regulatory burdens on cities, other municipalities, and property owners, EPA should revise its rule to state that MS4s and their component parts are “waste treatment systems”—which the agency has long excluded from WOTUS jurisdiction.

EPA regulations define MS4s as “a conveyance or *system of conveyances* ... designed or used for collecting or conveying storm water.”¹⁵ The component “conveyances” within a larger MS4 “system” collect and channel runoff through “roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains.”¹⁶ The MS4 definition closely tracks the CWA’s separate definition of “point source”¹⁷—thus confirming that “[s]torm sewers are established point sources” subject to National Pollutant Discharge Elimination System (“NPDES”) permitting requirements under section 402 of the Act.¹⁸ Interpretations that may add MS4s to WOTUS regulations—when these stormwater systems are already subject to section 402 permitting rules—result in duplicative and burdensome double regulation.

Moreover, “waste treatment systems” have long been excluded from WOTUS jurisdiction under EPA’s rules—including the regulations that implement the NPDES permit program.¹⁹ Because MS4s are “waste treatment systems,” they should be categorically excluded from the reach of WOTUS.

Although the CWA’s structure and EPA’s own rules (1) deem MS4s as section 402 regulated “point sources,” and (2) exclude “waste treatment” systems like MS4s from WOTUS coverage, EPA’s final WOTUS final rule fails to clarify that MS4s fall outside the scope of jurisdictional waters. In fact, the final WOTUS rule generates confusion on this specific issue. The agency excludes from WOTUS coverage “[s]tormwater control features constructed to convey, treat or store stormwater that are created in *dry land*.”²⁰ However, elsewhere in the final WOTUS rule,

¹⁵ 40 C.F.R. § 122.26(b)(8) (emphasis supplied).

¹⁶ *Id.*

¹⁷ 33 U.S.C. § 1362(14); 40 C.F.R. § 122.2.

¹⁸ *Env’tl Defense Ctr. v. EPA*, 344 F.3d 832, 841 (9th Cir. 2003) (citing *NRDC v. Costle*, 568 F.2d 1369, 1379 (D.C. Cir. 1977)).

¹⁹ See 40 C.F.R. § 122.2 (exclusions from WOTUS definition at subsection (b)(1)).

²⁰ 80 Fed. Reg. at 37,105 col. 2 (setting forth new 33 C.F.R. § 328.3(b)(6)). It merits noting that in the CWA, Congress never used the term “stormwater control feature.” It used the term “MS4.” If a “stormwater control feature” is the same as an MS4 or component parts thereof, then the agency should stick with the term Congress used and not create its own new phrase describing what appears to be the same thing.

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EPA states that “dry land” can be *wet land*.²¹ Furthermore, the agency considered a specific regulatory definition of what constitutes “dry land” in the final WOTUS rule, but dodged that task because “there was no agreed upon definition given geographic and regional variability.”²² In the end, EPA concluded that “further clarity on this issue can be provided” through case-by-case field decisions. In short: EPA has left municipalities and property owners at the whim of regulators to make case-by-case determinations in the field as to whether “stormwater control features” are in “dry land” and excluded from—or in “wet land” and covered by—the WOTUS rule.

Instead of such regulatory acrobatics, and for the reasons discussed here and in our August 8, 2014 WOTUS comment letter, we recommend that the agency simply and plainly state that MS4s are “waste treatment systems” and thus categorically excluded from WOTUS jurisdiction.

(3) *EPA should continue funding and supporting ENERGY STAR—the federal government’s pre-eminent program to foster high-performance and innovation in U.S. buildings. ENERGY STAR helps create jobs in the construction and energy efficiency fields, improve the nation’s energy security, and save money for families and businesses.*

- Relevant Attachment:

- Letter from Real Estate Organizations to Chairmen and Ranking Members of U.S. House and Senate Appropriations Committees, “Real Estate Industry Supports ENERGY STAR Funding in EPA’s FY’18 Budget” (March 30, 2017) (*attached hereto*)

In March, the Administration released its suggested budget “blueprint” for federal programs in FY’18.²³ It recommends cutting funding for EPA’s ENERGY STAR program. Our organizations respectfully urge a course correction. We strongly recommend that funding for ENERGY STAR continue in FY’18 at current fiscal year levels.

ENERGY STAR is the federal government’s pre-eminent program to foster innovation and recognize high performance in U.S. buildings. Unlike the lead paint and WOTUS issues discussed above, this EPA program is *not regulatory*. It imposes no federal mandates. But it does motivate willing market participants in the real estate industry to distinguish their assets as “top performers” in the energy efficiency field. ENERGY STAR also provides the standard online tool for our industry to manage and control energy (as well as water use and waste disposal) costs. We are concerned that removing this tool from the federal policy landscape could seriously disrupt efficient and predictable management of building assets in real estate markets across the nation.

²¹ *Id.* at 37,098 col. 3 (“[I]t is important to note that a ‘water of the United States’ is not considered ‘dry land’ just because it lacks water at a given time. Similarly, an area remains ‘dry land’ even if it is wet after a rainfall event.”)

²² *Id.* at 37,099 col.1.

²³ https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/2018_blueprint.pdf.

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There is a strong jobs, business, and economics case to back EPA’s ENERGY STAR buildings program. On March 30, 2017, our organizations jointly set forth these justifications in a letter to the House and Senate Appropriations Committees (attached to these comments). As our letter requesting continuation of ENERGY STAR funding explains:

- An estimated 2.2 million jobs are attributable to employment in the energy efficiency field. Manufacturing, construction, and retrofitting related to ENERGY STAR products and services account for a great majority of these jobs.
- In 2015 alone, U.S. businesses cumulatively saved \$3.4 billion on utility bills through the ENERGY STAR buildings program. Families and businesses have saved more than \$430 billion dollars in utility bills since the program’s start.
- Fifty percent of U.S. commercial floor space uses EPA’s online “Portfolio Manager” program to track energy, water and waste consumption. Approximately 500,000 buildings representing 44 billion square feet of commercial floor space use EPA’s benchmarking tool.
- Currently, 29,500 buildings representing 4.34 billion square feet of buildings are ENERGY STAR certified as “top of asset class” performers.
- In 2014, EPA’s ENERGY STAR efforts helped Americans save more than 360 billion kilowatt-hours (kWh)—about 5 percent of total U.S. electricity demand at minimal cost to taxpayers. Avoiding energy use, and reducing wasteful electricity and gas consumption, as enabled by ENERGY STAR helps make our country more secure by avoiding reliance on foreign fuel supplies.
- A growing number of domestic and overseas investors—such as banks, pension plans, mutual fund managers, endowments and sovereign wealth funds—who invest in U.S. real estate look for buildings that are both profitable and sustainable. ENERGY STAR-rated buildings have become an important indicator for profitable and sustainable real estate.
- The signature energy policy of the 114th Congress is the “Energy Efficiency Improvement Act” (H.R. 2126), which passed the House in 2014 by an overwhelming bipartisan margin (375-36), and then the House again and the Senate by simple voice votes in each chamber in 2015. The bill creates an EPA program called “Tenant Star,” intended by Congress to amplify ENERGY STAR’s impressive successes at the “whole building” level and translate the platform for optimal energy efficiency for leased spaces within commercial buildings. EPA is currently in the process of developing standards and protocols to implement “Tenant Star.” De-funding ENERGY STAR would undermine Congress’s key “Tenant Star” legislative achievement. It would also halt EPA’s significant progress—at the urging of our industry—to align commercial owners and tenants on mutual energy cost-saving goals.

For these reasons, and as set forth in our March 30, 2017 letter to congressional appropriators, we urge funding for the ENERGY STAR buildings program to continue in FY’18.

Real Estate Industry Comments—EPA’s “Evaluation of Existing Regulations”
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* * *

Thank you for this opportunity to provide input as EPA evaluates its existing regulations and programs. We look forward to providing further comments on behalf of the U.S. real estate industry as the Trump Administration considers how to best reform and streamline the federal regulatory process.

Building Owners and Managers Association

CCIM Institute

Institute of Real Estate Managers

International Council of Shopping Centers

NAIOP, the Commercial Real Estate Development Association

National Apartment Association

National Association of Home Builders

National Association of Realtors®

National Association of Real Estate Investment Trusts

National Multifamily Housing Council

The Real Estate Roundtable



The Real Estate Roundtable

SUSTAINABILITY POLICY ADVISORY COMMITTEE

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Frank Burt
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Gary Buscemi
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Brian Byrne
Senior Vice President
Lincoln Property Company

Bill Caldwell
Managing Director, Construction
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Michael Chang
Director, Energy & Sustainability, Design &
Construction
Host Hotels & Resorts Inc.

Holly Regan Charlesworth
Manager, Government Relations
National Apartment Association

Abbi L. Cohen
Partner
Dechert LLP

Robert Colan
Equitable Life

Melanie Colbert
Senior VP Property Management/Operations
LBA Realty

Christopher Corpuel
Vice President - Global Sustainability
Hilton Worldwide

Greg Czarnik
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Duke Realty Corporation

Paul D'Alto
Director, Managing Architect
MetLife

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Vice President, Management Services/Government
Affairs
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Mark Delisi
Senior Director of Corporate Responsibility
AvalonBay Communities, Inc.

Stefan Dembinski
Senior Vice President
Brookfield Properties - Office Division

Robert Dibblee
Vice President, Government Relations
National Association of Real Estate Investment
Trusts

Ralph J. DiRuggiero
Vice President, Property Management
Paramount Group, Inc.

Kevin Donnelly
Vice President, Government Affairs
National Multifamily Housing Council

Daniel Egan
Vice President, Head of Sustainability and Utilities
Vornado Realty Trust

Dan A. Emmett
Chairman
Douglas Emmett, Inc.

James Fancher
Director of Tenant Coordination
The Pyramid Companies

Jonathan Flaherty
Director of Sustainability
Tishman Speyer

Brad Frazier
General Counsel
Watson Land Company

Christopher Freeman
Vice President, Property Management
Kimco Realty Corporation

Kirk W. Freeman
Senior Director, Government Relations
National Association of Real Estate Investment
Trusts

Brian Fry
Director, Asset Management
Ventas, Inc.

Sheldon Groner
Executive Vice President, Finance & Operations
National Association of Real Estate Investment
Trusts

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National Apartment Association

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Brandywine Realty Trust

Robert C. Hayn
TIAA

Robert J. Hellman
Managing Director
Pembroke Capital Management

Denis Hickey
CEO Americas
Lend Lease

Elias B. Hinckley
Attorney at Law
Sullivan & Worcester LLP

R. Thomas Hoffmann
Partner
Ballard Spahr LLP

Terry Hudgins
Senior Manager
Ernst & Young LLP

Carl Hum
SVP, Management Services and Government Affairs
Real Estate Board of New York

Steven L. Humphreys
Special Counsel
Kelley Drye & Warren LLP

Henry Irwig
Senior Consultant
Beacon Capital Partners

Abby Jagoda
Director of Federal Government Relations
International Council of Shopping Centers

George Johnstone
Executive VP Operations
Brandywine Realty Trust

Robert W. Jones
Vice President, Investment Manager, Real Estate
State Street Global Advisors

Richard A. Kessler
Chief Operating Officer
Benenson Capital Partners, LLC

Fulya Kocak
Vice President, Environmental, Social & Governance
(ESG) Issues
National Association of Real Estate Investment
Trusts

Jim Landau
Director
MetLife Real Estate Investors

Michael D. Larson
Vice President, Property Tax
Simon Property Group

William G. Lashbrook III
Senior Vice President
PNC Real Estate

Eileen Lee
National Multifamily Housing Council

Chuck Leitner
Chief Executive Officer
Berkshire Group

Pamela Lippe
Earth Day New York

Matthew Lobach
Associate, Sustainability
Hersha Hospitality Trust

Kimberly Lochridge
President, Family Office & Executive Division
Engineered Tax Services

Anthony E. Malkin
Chairman and CEO
Empire State Realty Trust

Charlotte Matthews
Vice President - Sustainability
Related Companies

Jennifer McConkey
Senior Operations Manager
Principal Real Estate Investors

Joyce S. Mihalik
Vice President, Design Services
Forest City Realty Trust

Lisa Mize
Senior Vice President/Group Manager
Shorenstein Realty Services, L.P.

Jerome L. Montrone
Beacon Capital Partners, LLC

Ben Myers
Sustainability Manager
Boston Properties, Inc.

Theodore J. Novak
Partner
DLA Piper US LLP

Dennis D. Oklak
Chairman & Chief Executive Officer
Duke Realty Corporation

Jeryl Olson
Partner
Seyfarth Shaw LLP

Lisa Pendergast
Executive Director
CRE Finance Council

Andrew Perellis
Partner
Seyfarth Shaw LLP

Austin Perez
Environmental Policy Representative
National Association of Realtors

Mark Peternell
Vice President, Sustainability
Regency Centers

Todd Platt
CEO
Hillwood Victory

David L. Pogue
Senior Managing Director - Asset Services Western
Region
CB Richard Ellis

Frank Pusinelli
Executive Vice President of Operations
RXR Realty

Todd Rechler
Senior Executive Vice President, Managing Director
RXR Realty

Dale Anne Reiss
Director, Audit Committee Chair
iStar Financial Inc.

Jeannie Renne-Malone
Vice President, Sustainability
Prologis

Jonathan Resnick
President & COO
Jack Resnick & Sons, Inc.

Mitchell Resnick
Vice President, Loan Pricing & Securitization
Freddie Mac

Russell Riggs
Policy Representative
National Association of Realtors

Jack Rizzo
Managing Director, Global Construction and
Development Services
ProLogis

Dave Rock
Executive Vice President, Market Leader - Southern
California
Transwestern

Victoria P. Rostow
Senior Vice President, Policy & Regulatory Affairs
National Association of Real Estate Investment
Trusts

Stanley Roualdes
EVP, Director, National Property Management &
Construction
Shorenstein Properties LLC

Susan A. Rowe
Vice President
Green Courte Partners, LLC

Michael Rudin
Vice President
Rudin Management Company, Inc.

Becca Rushin
Vice President - Sustainability and CSR
Jamestown Properties

Alfred B. Scaramelli
Senior Vice President
Beacon Capital Partners, LLC

Thomas Scarola
Director of Engineering
Tishman Speyer

Mitchell N. Schear
President - Washington, DC Division
Vornado - Charles E. Smith

Bruce S. Schlein
Director, Corporate Sustainability
Citi

Dana Robbins Schneider
Vice President
Jones Lang LaSalle

Perry Schonfeld
Principal
LBA Realty

Lou Schotsky
VP Investments
Equity Residential

Gary F. Sedoruk
Managing Director, Property Management
Benenson Capital Partners, LLC

Fred A. Seigel
President & Chief Operating Officer
Beacon Capital Partners, LLC

Ronald D. Sernau
Partner
Proskauer Rose LLP

Patti Shwayder
Senior Vice President, Government Relations and
Communications
AIMCO

Allan Skodowski
Senior Vice President Director LEED &
Sustainability
Transwestern

Stephanie Spear
Policy Representative - Commercial Real Estate
National Association of Realtors

Krista Sprenger
VP-Director of Sustainability, Americas
Lend Lease

Aquiles F. Suarez
Vice President for Government Affairs
NAIOP, the Commercial Real Estate Development
Association

Will Teichman
Senior Director of Strategic Operations
Kimco Realty Corporation

Mahesh Tharoor
Vice President, Energy and Sustainability
Transwestern

Bennett Thomas
Director of Finance
Hersha Hospitality Trust

Gary Thomas
Director, Sustainability Programs
CBRE

Evan K. Tyroler
Vice President, Principal
Cushman & Wakefield

Maxime Verstraete
Vice President, Sustainability & ADA Compliance
Officer
Hilton Worldwide

Brenna S. Walraven
President and CEO
Corporate Sustainability Strategies, Inc.

Robin Webb
President-Elect
CCIM Insitute

Rick Werber
SVP, Engineering and Sustainability
Host Hotels & Resorts Inc.

Chris Whalen
Vice President - Financial Analysis
Duke Realty Corporation

Cope M. Willis
Director, Sustainable Business Solutions
PricewaterhouseCoopers LLP

David L. Winstead
Attorney
Ballard Spahr LLP

Vijay Yadlapti
Associate Commercial Policy Representative
National Association of Realtors

Jill Ziegler
Director of Sustainability and Corporate
Responsibility
Forest City Realty Trust

Message

From: Birsic, Michael J. (MPC) [mjbirdsic@marathonpetroleum.com]
Sent: 4/27/2017 5:46:28 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Follow up
Attachments: 20170427 Assumptions and Crack Spread Calculation.pptx

Actually attaching the slides would help

From: Birsic, Michael J. (MPC)
Sent: Thursday, April 27, 2017 1:25 PM
To: Mandy Gunasekara (EPA)
Subject: Follow up

Mandy,

Attached is the assumptions and the crack spread calculation to go along with the slides we shared with you this morning. Please let us know if you want more clarification or additional information.

Mike

Michael Birsic
Marathon Petroleum Corporation
1201 F Street, NW, Suite 625
Washington, DC 20004
Direct: 202-442-2459
Cell: 202-213-2548
Fax: 202-442-2492
mjbirdsic@marathonpetroleum.com

Assumptions

Commodity	\$/Gallon	\$/Barrel
Crude	1.15	48.48
CBOB	1.37	57.54
ULSD	1.45	60.90
HFO	0.96	40.25
D6 RIN	0.98	40.95
D4 RIN	1.15	48.30
D5 RIN	1.14	47.88
RVO	0.10	4.20
Ethanol	1.67	70.14
Biodiesel	3.70	155.40

1 Barrel = 42 Gallons

Crack Spread Calculation

- “Crack Spread” is defined as the value of the refinery fuel products less the cost of the crude oil raw material; It serves as a benchmark proxy for the refinery gross margin
- The LLS 6321 Crack Spread assumes that 6 barrels of LLS crude oil will yield 3 barrels of gasoline (CBOB), 2 barrels of diesel (ULSD), and 1 barrel of heavy fuel oil (HFO)

LLS 6321 Crack Spread				
	Commodity	Barrels	\$/Barrel	\$
Crude Cost	LLS Crude	6	48.48	6 x 48.48 = 290.88
Product Value	CBOB	3	57.54	3 x 57.54 = 172.62
	ULSD	2	60.90	2 x 60.90 = 121.80
	HFO	1	40.25	1 x 40.25 = 40.25
	Total	6	334.67 / 6 = 55.78	334.67
Crack Spread		6	55.78 - 48.48 = 7.30	334.67 - 290.88 = 43.79

Message

From: Riddle, Ken [Ken.Riddle@lakelandgov.net]
Sent: 5/16/2017 7:06:01 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Follow Up

Mandy,

Once again thanks for coming to the Eastern Fuel Buyers Conference. Your comments were very well received. I'm very sorry I was not able to introduce you to Betsy Monseu from ACC. She would really like to arrange an EPA speaker for our August Meeting in Park City, UT. Give me a call some time. I'd love to follow up in more detail.

Ken Riddle

Supervisor of Chemical Processes
Lakeland Electric
3030 East Lake Parker Drive
Lakeland, FL 33805
(863)-834-5639 Office
(863)-660-3626 Mobile

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Message

From: Walt Disney Parks and Resorts Research [invitation@disneysurveys.com]
Sent: 5/10/2017 11:38:18 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: REMINDER: Walt Disney World Resort Survey



Dear Mandy,

We're writing to you on behalf of the staff at Disney's Yacht Club Resort. We're really glad that you recently spent time with us!

Here at Disney's Yacht Club Resort, we strive to provide magical experiences for all of our Guests, and feedback from our visitors helps make this possible. We would therefore like to invite you to share your opinions and experiences with us by participating in an important online survey. Please be assured that the information you share with us is confidential and will not be used for any other purpose.

To complete the survey, please click [here](#).
This survey will be open for a limited time.

Your opinions are very important to us, as we want all of our Guests to have the ultimate vacation experience. Thanks in advance for your participation!

Best Regards,
Your friends at Disney's Yacht Club Resort

If you're unable to click the link above, please copy and paste the following URL into your browser:

<https://www.disneysurveys.com/wix/p22087590.aspx?r=397087&s=DOFITGSO>

RES__31

Message

From: Stephen Aaron [saaron@mercuryllc.com]
Sent: 5/8/2017 8:44:22 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Strange Sequence of Events
Attachments: Scott Pruitt Letter.pdf; John D Dunlap Bio.docx

Mandy,

Really strange sequence of events happened late last week.

You received the attached letter from the construction industry in California and my understanding you isthen reached out and called Michael Lewis.

The letter was actually written by his consultant John Dunlap of the Dunlap Group. <http://www.dunlapgrp.com/>

I submitted John Dunlap's info to Jackson two or three weeks ago to be considered for Region 9 administrator. John hasn't heard from Ryan yet so if you liked the tenor of the letter, you may want to circle back with Ryan on Region 9 Administrator. I reattached what I sent to Jackson.

Separately, I wanted to see when you may have a few quick minutes for me to call you this week in a lead up to the meeting with Cabot on the 15. We've taken your request seriously in coming to the table with a solution, and I'd love to get your reaction before we bring it into the room. Let me know when you've got a few minutes.

Talk soon,

Stephen

.....
Mercury.

Stephen Aaron
Senior Vice President
300 Tingey Street SE | Suite 202
Washington, DC | 20003
www.mercuryllc.com

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John D. Dunlap, III

John has been front and center in California environmental issues for the past thirty years.

During his nearly two decades in local and state government he Chaired the California Air Resources Board (CARB), arguably the most-powerful environmental regulatory organization in the United States where he was responsible for implementation of the California and Federal Clean Air Acts, been the Chief Deputy Director of the California Department of Toxic Substances Control (DTSC) under California Republican Governor Pete Wilson, and served as the South Coast Air Quality Management District (SCAQMD) Public Advisor, a statutorily required post that serves as the principle liaison to the regulated community. Early in his career he worked for Rep. Jerry Lewis, a former Chair of the House Appropriations Committee and the author of the bill that created the SCAQMD.

What makes him particularly well-suited for the Region 9 Administrator post has been his post-government work as an environmental consultant to the regulated community where he has tracked and advocated on nearly all of the consequential environmental regulatory matters in the Golden State. He has represented clients with thorny regulatory issues before both the US EPA and CAL/EPA. They include: national and California-based trade groups and leading players in the marine, airline, tribal, construction management (as well as steel/cement/equipment), motorcycle, utilities, fleet management, environmental laboratories, lawn and garden equipment manufacturing, auto parts, ski and the recreation industry, governmental agencies subject to state and national requirements (county air, transit and transportation agencies), natural gas/propane/oil/alternative fuels, dairy and ag commodities, vehicle manufacturing arenas and both large and small companies faced with increasing unreasonable regulatory demands. These regulatory matters have included----diesel regulation, oil and gas, climate, drought policies/management, air quality planning, hazardous waste, advanced vehicle and transportation technologies, fuels, development/construction, new technology and has resolved over fifty compliance cases (a near impossible feat in California). John's environmental consulting work has given him a front row seat to witnessing regulatory over-reach and the chilling negative impact on economic growth as a direct result.

John is one of very few Republican, west-coast-based environmental regulatory experts. He is respected on both sides of the aisle and believes a strong and effective federal presence is needed to keep some state environmental regulators from doing irreparable harm to both the state-wide and national economies. He is well known nationally and especially in Region 9 as a fair-minded environmental expert and advisor. He is current on both the players and stake holders in the EPA Region 9 territory and welcomes the opportunity to serve the Trump Administration as the Region 9 Administrator or a Joint Administrator, if the regions were to be re-organized to see through much-needed regulatory reform programs.

Formerly, John served as President and CEO of the 20,000-member California Restaurant Association (CRA). He was hired by the CRA in November 1998 to lead the 98 year-old southern-California-based trade association into the 21st century. Under his leadership, membership grew by over 100 percent. He also served on the National Restaurant Association Board and their Political Action Committees.

John has an extensive background in other areas of government service. In 2003, he was appointed by Governor Gray Davis to serve as Chairman of the State Compensation Insurance Fund, California 's largest provider of workers' compensation and as a member of the California Travel and Tourism Commission, representing the gold country area of California.

He has been a life-long friend of California Republican Party Chairman Jim Brulte, who grew up in John's Ontario, CA neighborhood. Kristen Olsen, the California Party's Vice Chair, has also served as his Communication Chief when he ran one of the largest trade associations in California---the California Restaurant Association.

John resides in northern California with his wife, Jane.

Education

Ph.D. post-graduate work at Claremont Graduate University;

M.P.P. Claremont Graduate University;

B.A. University of Redlands.

John D. Dunlap, III



Dunlap Group
PO BOX 101 Auburn, CA 95604
Phone: (530) 823-2085



CONSTRUCTION INDUSTRY AIR QUALITY COALITION

Coalition Members



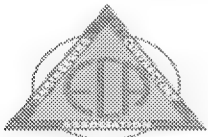
Associated General Contractors
America-San Diego Chapter, Inc.



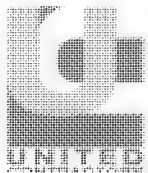
Building Industry Association
of Southern California



Western States Trucking
Association



Engineering
Contractors Association



United Contractors



Southern California
Contractors Association



Construction Industry Coalition on Water Quality

March 29, 2017

Administrator Scott Pruitt
Environmental Protection Agency
Mail Code 1101A
1200 Pennsylvania Avenue N.W.
Washington, D.C. 20460

Dear Mr. Pruitt:

Congratulations on your confirmation as Administrator of the US EPA.

The construction industry in California looks forward to your leadership and assisting you in reshaping the regulatory landscape to achieve our environmental goals and grow our economy. **The Construction Industry Air Quality Coalition** and the **Construction Industry Coalition on Water Quality** have been involved in the regulatory arena in California for over two decades. We have developed a well-deserved reputation for thoughtful and practical solutions to our Nation's environmental challenges.

Our Construction Industry Air and Water Quality Coalitions are composed of the Associated General Contractors of California, the Building Industry Association of Southern California, the Engineering Contractors Association the Southern California Contractors Association, United Contractors and the Western States Trucking Association. We have over 2000 contractor members employing over 300,000 workers in California.

We live and work in the most costly and regulated environment in the country. We know there are better ways to achieve our environmental goals and grow our economy. Unfortunately, our policy makers in California believe that jobs are bad for the environment and business cannot be an equal partner in solving environmental challenges.

There are many issues in the California regulatory process where we believe that the USEPA can be helpful in supporting the growth of business while still benefiting the environment in California. We want to bring to your attention several areas where California has pursued regulation where there is no scientific support for their conclusion that it will result in emission reductions or improved water quality.

The Science of "Premature Death"

This term is used extensively in California to justify all sorts of regulations related to carbon and combustion. Despite the fact that CARB's own scientists admitted that their California specific health data does not demonstrate a premature death effect from particulate matter. In fact, independent studies over many decades of California specific health records indicate that there hasn't been any identifiable effect on premature death in California from particulate matter since the mid 1980's. In the one study still cited by CARB, the Canadian author has never been willing to make the data available for peer review. As a result, there is a growing chorus of researchers, epidemiologists and scientists who contest this "premature death" assumption.

Scott Pruitt
March 29 2017
Page 2 of 3

If you look at mortality in general across the United States, California is the second healthiest state in the union and Southern California is healthier than California as a whole. If you look at asthma as one of the frequently cited effects of air pollution, in the last 40 years, asthma cases have skyrocketed while air pollution has declined by over 70%. The old adage that our ever-improving air is causing ever increasing health effects is simply not true. But, unproven health effects are still being flouted as the motivation for all of our air quality regulations in California.

We hope that USEPA will review this “premature death” fiction and require California to use real data for their rule and regulation justification.

Modeling vs. Monitoring

As we have seen with climate change, constructing an air quality model that accurately reflects the real circumstance is difficult to do. And as sophisticated as our emissions modeling is in California it still does not accurately reflect the real air quality picture. In fact, we looked independently at South Coast Air Quality Management District’s modeling projections over the last ten years and compared those to the actual monitor readings. We discovered that the model used for regulatory development predicts slower reductions in emissions than the monitors actually reflect. Obviously, this shows we are getting to our goal faster than the model shows and it means we may not need as many measures as the model indicates. The regulators have no incentive however to calibrate the model and the monitors. That penalizes the business community to the tune of billions of dollars in unnecessary costs.

The USEPA review of the newly adopted State Implementation Plan should include an analysis of the emissions modeling and monitoring data for accuracy and consistency.

Indirect Source Regulations

The newest fashion in air quality regulations in California are “Indirect Source Rules”. Adopting an ISR is tantamount to admitting that an agency has no legal authority or control over a pollution source but they are nevertheless going to pass the responsibility for those emissions to a third party and make them responsible for finding a way to reduce them. There is simply no evidence to suggest that this strategy works. In fact, most ISR’s have a fee associated with them which really become a tax burden for the third party to buy their way out of the responsibility. It’s just another way to generate revenue for regulators.

You will see in the new SIP being submitted by California ISR’s proposed for ports, airports, railyards and logistics facilities. In most of these cases, this is an attempt to get at “federal” sources otherwise beyond the reach of the regulators. Those same sources are certainly beyond the reach of the ports, airports and distribution facilities being tasked with reducing their emissions. Pursuing this ISR approach will significantly delay the development of voluntary reduction plans proposed by the ports, airports, railyards and distribution centers.

EPA should closely examine these ISR proposals in the California SIP to determine their authority to control those sources and the effectiveness of those ‘indirect’ measures in the first place.

Incentives vs. Regulations

We believe that much can be achieved by incentive funding. We have first-hand experience with both the Carl Moyer and the S.O.O.N. Programs. Using incentive monies to replace, repower and retrofit our off-road construction equipment we have reduced 100s of tons of NOx beyond the regulatory goal. All of these were excess emissions that were eliminated because matching funds were available to achieve extra voluntary emission reductions.

Scott Pruitt
March 29 2017
Page 3 of 3

These programs along with the RECLAIM program worked very effectively for the business community. We hope that USEPA will support expansion of the use of incentives as our technology options become more and more expensive the closer we get to zero emissions. Incentives are cost effective and have proven results.

Water Quality

In addition to our work in the air quality arena, we were the first advocates for regional solutions to storm water pollution reduction and we have devised a tool box of effective Best Management Practices for the control of runoff from construction sites. We have funded research on the effectiveness of BMP's for construction sites and we have advocated for simplified reporting of runoff test monitoring results. We have also worked with Orange County Public Works to develop a framework for a storm water pollution credit trading program that we believe will achieve greater results than any regulatory approach.

California Water Fix

The single most important infrastructure project in California is the Delta water tunnels. This project is necessary to preserve the Delta, protect the habitat and endangered species and provide a reliable water supply to Southern California. It will be paid for by the users and it will generate significant construction jobs as well. It is critical that the go-ahead on this project is finalized while the current Governor is in office. Responding to our on-going droughts cannot wait any longer for a solution. The Trump Administration's support for this project is vital to its completion.

Corps of Engineers

We have participated in extensive planning in Southern California to capture and reuse storm water. One of the key components of those plans is the use of the Federal dams which are operated by the Corps of Engineers. There are five such dams in Los Angeles County alone. But before they can be used for retention, storage and spreading of storm water, they need to be repaired and upgraded. Expanding Federal funding for this purpose, and/or allowing the local agencies to fund repairs would enable these vitally needed storm water capture projects to proceed. USEPA's advocacy for this effort would benefit everyone involved.

Waters of The United States

The proposed WOTUS rule was a significant overreach of EPA authority. We believe there are far better ways to achieve greater protection for rivers, lakes and oceans. We support the Administration's efforts to withdraw the current proposal and work with stakeholders to devise an appropriate alternative.

Just because California was the first to do it, doesn't make it the right way to do it. We are anxious to share some of our ideas with you and hope that we can partner to move California in a more productive and effective direction in achieving our environmental goals.

There are some important lessons to be learned from our experiences in California. We hope we can share them with you and your staff at your earliest convenience. Please let us know if we can sit down with you or your representatives to outline our concerns in these important areas in more detail.

Sincerely,

Michael Lewis
Senior Vice President
951-206-4420 cell

Message

From: Michael Stafford [MStafford@ajw-inc.com]
Sent: 5/2/2017 8:24:43 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Late Update On Your ICAC Pane Tomorrow
Attachments: speaker additions bios.docx; 2017 ICAC program_full agenda only.pdf

Mandy:

We've had a couple of very late changes to your panel tomorrow on **The Impact of the 2016 Election on the future of Energy, Emissions Policies, Programs and Markets**. Rick Kessler now has a House E&C hearing that's knocked him off the panel and we're subbing in Chris Miller of our firm. Also, Bill Tyndall has agreed to moderate your panel. Bios on both are attached.

You're certainly welcome to arrive early if you have any interest in hearing Jeff Holmstead or Andy Wheeler's remarks, prior to your session. Thanks again for appearing on ICAC's Clean Air Summit program and look forward to seeing you in the morning. FYI—As to our roundtable with Administrator Pruitt on Thursday morning, we sent the list of participants over to Cheryl earlier today and we're all squared away with her.

Best regards,
Michael

Michael Stafford
Partner
AJW, Inc.
202-296-8086/Ext. 104 (Office)
202-299-4577 (Cell)



AJW's work focuses on enhancing market opportunities and removing market barriers for innovative technologies.

FULL AGENDA

May 2, 2017

5:00 PM - 7:00 PM

Welcome Reception (ICAC Members)

AJW, Inc.
2200 Wilson Blvd.

May 3, 2017

Location: AUSA Conference Center, 2425 Wilson Blvd.

7:30 AM - 8:00 AM

Registration and Coffee

8:00 AM

Welcome Remarks

- Michael Corvese, President of ICAC Board of Directors

8:10 AM

The Global Transition to a New, Enhanced Energy Future in an Era of Global Political Transition

- Jeffrey Holmstead, Attorney, Bracewell LLP
- Andrew Wheeler, Principal, Faegre Baker Daniels Consulting

9:00 AM

Associate Member Promotions

9:05 AM

The Impact of the 2016 Election on the Future of Energy, Emissions Policies, Programs and Markets

- Ross Eisenberg, Vice President of Energy and Resources Policy, National Association of Manufacturers
- Mandy Gunasekara, Senior Policy Advisor, U.S. Environmental Protection Agency
- Rick Kessler, Senior Democratic Advisor, U.S. House of Representatives Committee on Energy and Commerce

10:20 AM

Associate Member Promotions

10:25 AM

Break

10:45 AM

The Major Forces Shaping Energy and Air Pollution Control Markets

- Bob Bessette, President, Council of Industrial Boiler Owners
- Jenny Fordham, Senior Vice President of Government Affairs, Natural Gas Supply Association
- David Hill, Executive Vice President and General Counsel, NRG Energy
- Moderator: Monica Trauzzi, Managing Editor and Host, E&E News

12:00 PM

Lunch

12:50 PM

Associate Member Promotions

FULL AGENDA

May 3, 2017 (continued)

1:00 PM

The Changes in Federal Regulation and State Programs Affecting Air Pollution Control, Energy Production and Use, and Industrial Activities

- Howard Feldman, Senior Director of Regulatory and Scientific Affairs, American Petroleum Institute
- Venu Ghanta, Federal Environmental and Energy Policy Director, Duke Energy
- Thomas Lorenzen, Partner, Crowell & Moring
- Clint Woods, Executive Director, Association of Air Pollution Control Agencies

2:15 PM

Carbon Emissions Management: Status Update, Expected Progress and Regulatory Issues

- Fatima Ahmad, Solutions Fellow, Center for Climate and Energy Solutions/ National Enhanced Oil Recovery Initiative
- Shannon Angielski, Executive Director, Carbon Utilization Research Council
- Angelos Kokkinos, Director, Office of Advanced Fossil Technology Systems, U.S. Department of Energy

3:30 PM

Break

3:40 PM

The Extent of the Pollution Problem, Expected Emission Reduction Efforts, and the Relevant Factors Affecting the Future Air Pollution Control Market in Key Countries Such as India and China

- Robert O'Keefe, Vice President, Health Effects Institute
- Richard Rossow, Senior Advisor and Wadhwani Chair, U.S.-India Policy Studies, Center for Strategic International Studies

4:50 PM

Closing Remarks

- Christopher Hessler, Partner, AJW

5:00 PM

Networking Reception

May 4, 2017

7:00 AM

Shuttles Depart Hyatt Place Hotel for U.S. EPA

8:00 AM - 9:30 AM

Round Table Meeting with U.S. EPA Administrator Scott Pruitt and Senior White House Staff at U.S. EPA Headquarters Building

9:45 AM

Shuttles Depart U.S. EPA

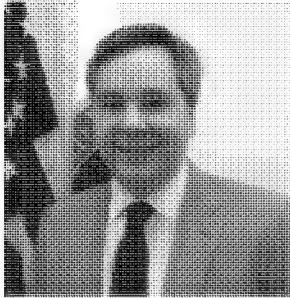
10:30 AM-11:30AM

ICAC Membership Meeting (ICAC Members Only)

Speaker Substitutions and Additions

For the panel ***The Changes in Federal Regulations and State Programs Affecting Air Pollution Control, Energy Production and Use, and Industrial Activities***, Angelos Kokkinos is no longer able to participate. We are pleased to welcome Jordan Kislear as his substitute for the panel discussion. Please see his biography below.

Jordan Kislear, Director of Government Affairs and Analysis for Clean Coal and Carbon Management, U.S. Department of Energy



Jordan has been a member of Fossil Energy for more than 10 years, and currently serves as the Director of Government Affairs and Analysis in the Office of Clean Coal, responsible for federal coordination of Clean Coal and Carbon Management policies, outreach, and analysis of the technology portfolio.

Jordan has supported the Office of Clean Coal in many ways, including regulatory review and analysis, assisting the Office of Management and Budget, and engaging in modeling efforts with the Energy Information Agency. He holds a B. S. in Mechanical Engineering from Penn State University, and a M.S. in Systems Engineering from Johns Hopkins University.

For the panel on ***The Impact of the 2016 Election on the Future of Energy, Emissions Policies, Programs and Markets***, Rick Kessler is no longer able to participate. We are pleased to welcome Chris Miller as his substitute for the panel. Please see his biography below.

Chris Miller, Partner, AJW



Chris has more than 26 years of energy and environmental experience working for Congress in various roles. For nearly eight years prior to leaving the Senate, Mr. Miller was a senior policy advisor to U.S. Senate Majority Leader Harry Reid and the Senate Democratic Caucus on energy and environmental matters. He helped coordinate and communicate policy and political priorities within the Caucus, and with outside groups, White House and Administration officials, and the private sector.

While working for Senator Reid, he assisted in the Senate's consideration of nearly every piece of energy and environmental legislation that came before it, including enactment of the Energy Independence and Security Act of 2007. While working for the Senate Committee on Environment and Public Works, he advised Chairman Jim Jeffords on environmental provisions of the Energy Policy Act of 2005 and handled climate change, Clean Air and energy and environmental technology issues.

As a longtime staffer for Senator Carl Levin, Chairman of the Senate Armed Services Committee, Mr. Miller covered a multitude of issues including the Clean Air Act Amendments of 1990, energy, water, transportation and technology.

Originally from Detroit, Michigan, Mr. Miller holds an M.S. in Natural Resource Management, Planning and Policy and a B.A. in Political Science from the University of Michigan.

Speaker Substitutions and Additions Continued

For the panel on ***The Extent of the Pollution Problem, Expected Emission Reduction Efforts, and the Relevant Factors Affecting the Future Air Pollution Control Market in Key Countries Such as India and China***, ICAC is pleased to announce Melanie Nakagawa as a panelist. Please see her biography below.

Melanie Nakagawa, Head of Climate Initiative, Princeville Global



Melanie is the Head of Climate Initiative based in Washington, DC. Before Princeville Global, Melanie served as Deputy Assistant Secretary for Energy Transformation at the U.S. State Department. She helped countries implement clean energy commitments and led engagements in high growth markets such as India and Morocco. Melanie has worked with emerging and established companies around the world to advance solutions to climate change.

Prior to her most recent role, Melanie served as a strategic advisor to Secretary of State John Kerry. In that role, she spearheaded engagements with the private sector that focused on climate investment and addressing climate change. Melanie served as the Senior Energy and Environment Counsel for the U.S. Senate Foreign Relations Committee and as an attorney with the Natural Resources Defense Council. She is currently a non-resident Fellow with the Center on Global Energy Policy at Columbia University's School of International and Public Affairs. She has a J.D. and M.A. in International Affairs from American University's Washington College of Law and School of International Service, and an A.B. from Brown University.

For the panel on ***The Impact of the 2016 Election on the Future of Energy, Emissions Policies, Programs and Markets***, ICAC is pleased to announce Bill Tyndall as the moderator. Please see his biography below.

Bill Tyndall, Chief Executive Officer, Center for Clean Air Policy



Bill is the CEO of the Center for Clean Air Policy. CCAP is a non-profit, non-partisan think tank and international consulting firm that works on energy, clean air and climate solutions at the local, state, federal and international level. Currently, much of CCAP's work is focused on assisting developing countries turn their Paris climate pledges into concrete programs and projects, such as the development of rooftop solar programs in Pakistan, the Philippines, Peru and Mexico, and working with countries to secure financing for their climate mitigation projects. In the U.S., CCAP is working to preserve energy market access for renewable energy, demand management and other zero carbon energy solutions and working with states developing and implementing carbon reduction strategies for states.

Prior to CCAP, Bill served as Vice President for Commercial Strategic Initiatives at Duke Energy where he lead a team that developed and executed a strategy to enter the distributed energy resources sector including the acquisition of a commercial rooftop solar company, the acquisition of an enterprise energy software company and investments into other solar and energy efficiency companies. Prior to this position, Bill ran federal affairs for Duke Energy where he worked closely with then Duke Energy CEO Jim Rogers to try and pass national climate legislation. Before Duke, he was a Managing Director of Natsource Asset Management where he developed carbon and clean energy investment vehicles focused on emerging market opportunities. Bill's government experience includes stints with the House of Representatives as Minority Counsel for the Committee on Energy and Commerce and as a Senior Policy Advisor and Senior Attorney with the Environmental Protection Agency. Bill graduated from Stanford University and the University of California's Hastings College of the Law. He is also a graduate of the Executive Program of the Stanford University Graduate School of Business.

Message

From: Larry Schafer [lschafer@playmakerstrategies.com]
Sent: 5/12/2017 7:59:16 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]
CC: Manning Feraci [mferaci@playmakerstrategies.com]; Gene Gebolys [geneg@worldenergy.net]
Subject: Biodiesel Follow up
Attachments: Untitled Attachment

Mandy and Brittany,

Thanks for the call today ... know you are busy ...

We will pull together our data on "advanced biofuels" volumes and send it to you early next week.

We anticipate Gene and others will be in town over the next couple of weeks ... so we will coordinate to meet with you at that time.

Again. Thanks for your time today.

=====



PLAYMAKER STRATEGIES, LLC
A CORPORATION OF THE DISTRICT OF COLUMBIA

Larry Schafer
Principal
Playmaker Strategies, LLC
750 Ninth St., NW, Suite 650
Washington, DC 20001
Phone: (202)997-8072
Email: lschafer@PlaymakerStrategies.com
Www: www.playmakerstrategies.com

=====

Message

From: David Fialkov [dfialkov@natso.com]
Sent: 5/2/2017 3:49:34 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Washington, Valerie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9d031c02ce3a416dad0d421ee998d5a3-VWASHING]
Subject: Re: RFS Meeting w/ NATSO

Thanks Mandy.

Valerie, is there any time mid-afternoon on the 17th that'd work for the folks on your end?

On Tue, May 2, 2017 at 10:46 AM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Hi David,

Thank you for the email and sorry for the phone tag. I'm ccing' Valerie Washington who can help set up the logistics for the meeting. I believe I'm fairly flexible on the 17th so I look forward to meeting with the group then.

Valerie, can you also include Samantha Dravis and Brittany Bolen from our team on this meeting?

Thanks,
Mandy

From: David Fialkov [mailto:dfialkov@natso.com]
Sent: Tuesday, May 2, 2017 10:40 AM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: RFS Meeting w/ NATSO

Hi Mandy,

Since we've been playing phone tag for going on a month now, I thought it'd be worth my shooting you an email instead....

As I've indicated in my voicemails, many NATSO members (Love's, Pilot Flying J, others) have been advocating on RFS issues for many years, and I thought it'd be worth our connecting to discuss.

If you're free, I will have some of the top fuel guys from these companies and one or two others in town on Wednesday, May 17th. Would you have any time that day to meet with them to discuss RFS issues, especially the Point of Obligation? Afternoon is best but we can accommodate your schedule.

If that day doesn't work, I'd be happy to come in and discuss this stuff individually as well at a time that works for you.

Thanks very much, look forward to meeting you and sorry about all the back and forth.

Dave

--

David H. Fialkov

Vice President, Government Relations

Legislative and Regulatory Counsel

NATSO, Representing America's Travel Centers and Truckstops

dfialkov@natso.com

(703) 739 - 8501

--

David H. Fialkov

Vice President, Government Relations

Legislative and Regulatory Counsel

NATSO, Representing America's Travel Centers and Truckstops

dfialkov@natso.com

(703) 739 - 8501

Message

From: matthew.kuryla@bakerbotts.com [matthew.kuryla@bakerbotts.com]
Sent: 5/23/2017 2:25:13 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: SSM SIP Call reconsideration

Mandy, we represent a Texas industry group in the response to EPA's SIP call for state Startup, Shutdown and Malfunction programs. It's a top priority for Texas industry. I understand that EPA is now considering granting an administrative petition to reconsider the SIP call. Do you have a minute to discuss that?

Matt Kuryla

Partner

Baker Botts L.L.P.
matthew.kuryla@bakerbotts.com
T 713.229.1114
M 713.504.0313

910 Louisiana Street
Houston, Texas 77002
USA

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Message

From: Hamill, Bobby [Bobby.Hamill@mail.house.gov]
Sent: 5/15/2017 6:45:32 PM
To: Hamill, Bobby [Bobby.Hamill@mail.house.gov]
Subject: FW: Congressman Griffith's Weekly E-Newsletter 5.15.17

FYI – thought you might be interested in Rep. Griffith’s weekly column.

All the best,

Bobby Hamill
Legislative Director
Office of Rep. H. Morgan Griffith (VA-09)
(202) 225-3861 (O)

From: Congressman H. Morgan Griffith
Sent: Monday, May 15, 2017 2:29 PM
To: Hamill, Bobby
Subject: Congressman Griffith's Weekly E-Newsletter 5.15.17

May 15, 2017

Share this email:



Congressman Griffith's Weekly E-Newsletter 5.15.17

America First Energy Policy

An international deal the Obama Administration and environmental activists joined into has requirements that will cause the United States to voluntarily lose hundreds of thousands of jobs and significantly increase energy costs.

It's called the Paris Agreement. Not approved by Congress, no legal ramifications.

Why did the United States enter the agreement?

Good question.

It surely doesn't help put American energy first, make energy more affordable for Americans, or stabilize our power grid.

The agreement is aimed at lowering emissions and limiting climate change to 2°C above pre-industrial levels, basically an arbitrary number.

Notably, developed countries like the U.S. are expected to dramatically reduce actual emissions, while developing nations, such as India and China, are asked to lower emissions corresponding with their economic output. In other words, America is asked to kill jobs and risk our power grid stability, even if China and India are contributing more emissions than we are!

A recent [report](#) states, "Remaining in the pact commits the U.S. to reducing our carbon emissions by nearly 30% below 2005 levels — even though most of the world's major polluters will continue to emit massive amounts of greenhouse gases into the atmosphere. That is why some supporters of the Paris Agreement concede that the gains would be 'symbolic.'"

It continues citing "estimates that, over the next decade, the agreement will cost Americans an extra \$30,000 per family of four in higher energy prices and some 400,000 lost jobs."

The study compares the Paris Agreement to "a \$2.5 trillion global tax on American production. So the costs to America would be anything but "symbolic."

It would be crushing.

President Trump promised to focus on American energy independence to bring stability to the grid and boost our economy.

At the start of his Administration, he appointed Scott Pruitt to lead the Environmental Protection Agency (EPA) and Rick Perry to lead the Department of Energy (DOE), both of whom are determined to lead their respective organizations in a new direction. Both appointees are committed to taking bold actions that reflect the will of the American people, and will result in long-term, positive impacts for our country.

Administrator Pruitt is focused on these goals and to achieve them, he has recommended President Trump pull out of the Paris Agreement.

Those who argue to stay are mostly environmental activists who want to defend Obama Administration policies. They defend the \$1 billion Obama contributed and the \$3 billion Obama pledged to the Paris Agreement. Our commitments to foreign nations should be negotiated for America's best interest, not by activists with their own agenda.

Furthermore, staying in the Paris Agreement leaves environmentalists with a defense for the Clean Power Plan or similar detrimental policies. It opens the door to lawsuits from environmental activists to force the EPA to institute policies to meet our commitment. Exiting the agreement makes it clear there is no room for liberal interpretation leading to new regulations. An exit allows the EPA to continue the mission of undoing harmful, costly, and job-killing regulations and continue to work for an America first energy policy.

In efforts to strengthen our power grid at home, in April, Secretary Perry commissioned a 60 day study to address the "concern about how certain policies are affecting, and potentially putting at risk, energy security and reliability."

In his memo commissioning the study, he notes the importance of sustaining baseload power. The textbook definition of baseload power is the “minimum level of demand on an electrical grid over a span of time. Baseload power sources are power stations which can economically generate the electric power needed to satisfy this minimum demand.”

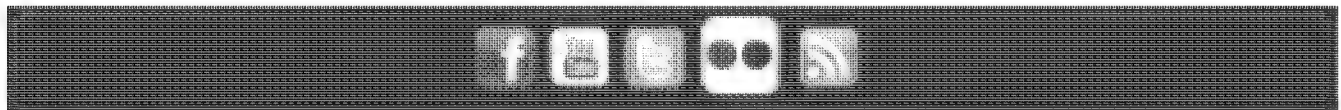
We are lucky, in the U.S., to have many sources that can contribute to meeting power needs; like coal, natural gas, wind, hydro, and nuclear. The study will determine how federal policies, regulations, and subsidies have skewed the balance of baseload power. It will examine how this has jeopardized the reliability of the electric grid, affected jobs and economic growth, and possibly threatened our national security. Specifically, DOE will determine if “regulatory burdens, as well as mandates and tax and subsidy policies, are responsible for forcing the premature retirement of baseload power plants.”

Perry concludes the memo by reiterating that “the Trump Administration will be guided by the principles of reliability, resiliency, affordability, and fuel assurance-principles that underpin a thriving economy.”

I will continue to support these policies of Administrator Pruitt and Secretary Perry “to ensure that we provide American families and businesses an electric power system that is technologically advanced, resilient, reliable, and second to none.”

If you have questions, concerns, or comments, feel free to contact my office. You can call my Abingdon office, 276-525-1405, or Christiansburg office, 540-381-5671. To reach my office via email, please visit my website at www.morgangriffith.house.gov.

###



Washington, DC Office
2202 Rayburn HOB
Washington, D.C. 20515
T (202) 225-3861
F (202) 225-0076

Abingdon Office
323 West Main St.
Abingdon, VA 24210
T (276) 525-1405
F (276) 525-1444

Christiansburg Office
17 West Main St.
Christiansburg, VA 24073
T (540) 381-5671
F (540) 381-5675

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Message

From: Mark Carr [markc@channeldesigngroup.com]
Sent: 5/23/2017 10:01:59 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: catching up

Only on Tues, 30, any hour, my strong preference, then the week of June 12. Out of town in Midwest and NYC during the gap.

Mark J Carr
 Channel Design Group
 314-616-6957
 DC - NOLA - StL

On Tue, May 23, 2017 at 3:35 PM -0400, "Gunasekara, Mandy" <Gunasekara.Mandy@epa.gov> wrote:

Hi Mark,
 Thank you for your note. I'm booked the rest of this week, so apologize for not being available while your expert is in town. Would sometime next week work?

Best,
 Mandy

From: Mark Carr [mailto:markc@channeldesigngroup.com]
Sent: Tuesday, May 23, 2017 1:57 PM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: catching up

Hope all's great **Personal Matters / Ex. 6**

Do you have time for me to come visit you about science and economic advice and support? One of my experts, Leighton Steward, is coming to DC over the next couple days and could be available to accompany me to your office. Short notice for me, too. I only know of this visit because I called him this AM on an unrelated matter.

I want to let you know that I've sent the President, through the VPOTUS chief of staff Josh Pitcock, a letter urging POTUS to buck-up and resist the pressure to make a Remain statement or off-hand remark at the G7.

I sent a letter to POTUS, but actually aimed at Josh, to organize a briefing of scientists and economists who actually supported Trump-Pence. That's in contrast to the meetings he's been taking with climate friends of the first children who despise the President and worked for his defeat. My message pointed out the State and Commerce need the benefit of our perspective.

Last night I sent emails to about 10 R senators plus Manchin asking them to sign the Sen Paul and Sen Inhofe Exit letters. In Rayburn today I ran into Rep McKinley. I said I heard he was trying to help Exit, that I was working Exit in the Senate, and offered to help McKinley if I could. Exchange of biz cards but nothing more at this point. I may see him tomorrow at a PAC event.

Hope to hear from you soon,
 Mark J Carr
 Channel Design Group
 314-616-6957
 DC - NOLA - StL

Want your kids outside more? Go to www.RiverWorksDiscovery.org

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Message

From: Kelly, Kerry [KKelly5@wm.com]
Sent: 5/25/2017 2:47:36 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Kelly, Kerry [KKelly5@wm.com]
Subject: Landfill Stay Follow Up

Hi Mandy,

I know how busy you must be. I wanted to check in with you to see if there might be some time on your schedule for a chat about your advice on next steps as we move into reconsideration of the rules. I am back from Spain, over my bronchitis and in the office. I can give you a call at a time of your choosing or come over to EPA if you would like to meet in person. You are just a few blocks from my office.

I do hope you enjoy a relaxing Memorial Day weekend and can forget about the office!

Warm regards,
Kerry

Carter Lee "Kerry" Kelly
Senior Director, Federal Affairs
Kkelly5@wm.com
WM Waste Management
701 Pennsylvania Ave., NW, Ste 590
Washington, DC 20004
202.639.1218 office
571.377.9202 cell

Recycling is a good thing. Please recycle any printed emails.

Message

From: Williams, Brendan [Brendan.Williams@pbfenergy.com]
Sent: 5/23/2017 2:18:11 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: FW: DE Building Trades Support Moving Point of Obligation
Attachments: 20170523081948.pdf

Mandy-

Got your email address wrong. Sorry about that. See below and attached. Please also let me know if you have time to touch base on the RFS at your earliest convenience.

Thanks!
Brendan

From: Williams, Brendan
Sent: Tuesday, May 23, 2017 10:17 AM
To: 'gunasekara.amanda@epa.gov'
Subject: DE Building Trades Support Moving Point of Obligation

Mandy-

Hope all is well. Wanted to make sure you saw the attached letter.

Regards,

Brendan Williams
Government Relations
PBF Energy
601 Pennsylvania Avenue, NW
Suite 900 South
Washington, DC 20004
O: (202) 434-8254
M: (703) 863-6825
brendan.williams@pbfenergy.com
www.pbfenergy.com



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DELAWARE BUILDING & CONSTRUCTION TRADES COUNCIL

AFL-CIO

911 New Road • Wilmington, Delaware 19805

Phone: (302) 892-9600 • Fax: (302) 892-9800

Website: www.debuildingtrades.com

JAMES MARAVELIAS
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Vice President

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Insulators Local 42
Plumbers & Pipefitters Local 74
Boilermakers Local 193
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Electricians Local 313
Iron Workers Local 451
Operating Engineers Local 542
Cement Masons Local 592
Carpenters Local 626
Sprinkler Fitters Local 669
Floorlayers Local 1823
Millwrights Local 1906
Carpenters Local 2012
Teamsters Local 326

May 22, 2017

The Honorable Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Pruitt:

I write today urging you to protect Delaware construction jobs and move the Renewable Fuel Standard (RFS) point of obligation. My members support efforts to enhance both renewable energy development and American energy security. However, the RFS is currently being implemented in a way that benefits global oil companies at the expense of merchant refiners like the Delaware City Refining Company in Delaware City. Fixing this flawed system is critical to maintaining a competitive domestic refining industry and preserving good paying construction jobs here in Delaware.

The Delaware Building Construction Trades Council is a professional organization advocating for the use of local, skilled tradesmen with developers, builders, contractors and Delaware's business community. My organization represents 24 affiliated local unions.

The Delaware City refinery provides our members with thousands of high-paying jobs. In addition to full time employees, the refinery regularly employs two to three hundred contract workers. During the facility's recent major maintenance project, called a turnaround, the refinery employed 1,200 additional craft construction workers. The existing RFS point of obligation puts merchant refiners like Delaware City at risk.

The RFS requires a certain amount of biofuel, such as ethanol and biodiesel, to be blended into the fuel supply each year. Credits that must be collected to comply with the law – called Renewable Identification Numbers or RINs - are generated at the point where biofuel like ethanol is mixed with gasoline. Herein lies the problem. EPA designated all refiners responsible for complying with the RFS,



The Honorable Scott Pruitt

May 22, 2017

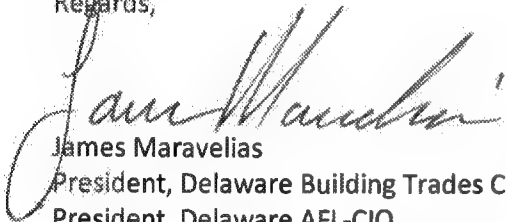
Page Two

despite the fact that not all refiners have large terminals and retail fuel distribution facilities needed to blend biofuel into gasoline or diesel. The Delaware City refinery specifically lacks sufficient blending capacity. The refinery manufactures and sells gasoline in bulk to wholesalers, which blend biofuel and other additives into gasoline and diesel for delivery to gas stations. Given this reality, the Delaware City refinery is not able to obtain the RINs it needs for compliance. It must buy these credits from larger oil companies that blend more fuel than they produce. These companies are also Delaware City's competitors.

Uncontrollable RIN prices have already resulted in lost jobs right up the river. Last year, Philadelphia Energy Solutions (PES) eliminated approximately 100 jobs and cut employee benefits. The company cited skyrocketing RIN costs as a primary factor in this decision. Delaware has seen its only refinery change hands enough over the decades, and even closed down at one point. Our members cannot afford to lose the refinery's high paying manufacturing jobs.

Changing the RFS point of obligation would align the compliance with where large scale blending occurs, leveling the playing field. It would prevent continued RIN subsidies from going to global integrated oil companies at the expense of merchant refiners like the Delaware City Refining Company. It will also lead to more biofuel blending, since the large companies with blending capabilities will have to hand RINs in for compliance rather than hoarding them for profit. We urge you to protect Delaware's working class construction jobs and make this needed policy change.

Regards,



James Maravelias

President, Delaware Building Trades Council

President, Delaware AFL-CIO

CC: The Honorable Thomas R. Carper
The Honorable Christopher A. Coons
The Honorable Lisa Blunt-Rochester

Message

From: Shepherd, Ray [rayshepherd@peabodyenergy.com]
Sent: 4/27/2017 1:00:40 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: NGS follow-up

Flag: Flag for follow up

Do you have ten minutes to talk today about NGS? Many thanks

Sent from my iPhone

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Message

From: Betsy Monseu [bmonseu@americancoalcoalcouncil.org]
Sent: 5/16/2017 6:55:14 PM
To: Washington, Valerie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9d031c02ce3a416dad0d421ee998d5a3-VWASHING]
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: American Coal Council follow-up from Eastern Fuel Buyers Conference

Valerie, I left a voicemail in response to yours. Unfortunately, I am traveling next Monday and cannot meet with Mandy then. I can accommodate a meeting any other day next week. Please let me know an alternate date and time. Also, I will not have anyone accompanying me for this meeting.

Thanks, Betsy

Betsy B. Monseu | CEO | American Coal Council

1101 Pennsylvania Ave. NW, #300
 Washington, DC 20004
 Office 202.756.4540 | Direct 202.805.2310
bmonseu@americancoalcoalcouncil.org
www.americancoalcoalcouncil.org

ACC 2017 Events

Spring Coal Forum—March 7-9, 2017 (Opal Sands Resort, Clearwater Beach, FL)
 Eastern Fuel Buyers Conference reception—May 2, 2017 (Disney's Yacht & Beach Club, Lake Buena Vista, FL)
 Coal Market Strategies—August 14-16, 2017 (Stein Eriksen Lodge, Park City, UT)
 Coal Trading Conference—December 4-5, 2017 (Crowne Plaza Times Square, New York, NY)

From: Betsy Monseu [mailto:bmonseu@americancoalcoalcouncil.org]
Sent: Monday, May 15, 2017 2:43 PM
To: Mandy Gunasekara (Gunasekara.Mandy@epa.gov) <Gunasekara.Mandy@epa.gov>; Valerie Williams (Washington.Valerie@epa.gov) <Washington.Valerie@epa.gov>
Subject: FW: American Coal Council follow-up from Eastern Fuel Buyers Conference

Good afternoon Mandy and Valerie,

I am checking back to see if you have a suggested meeting date and time.

Thanks and regards, Betsy

Betsy B. Monseu | CEO | American Coal Council

1101 Pennsylvania Ave. NW, #300
 Washington, DC 20004
 Office 202.756.4540 | Direct 202.805.2310
bmonseu@americancoalcoalcouncil.org
www.americancoalcoalcouncil.org

ACC 2017 Events

Spring Coal Forum—March 7-9, 2017 (Opal Sands Resort, Clearwater Beach, FL)
 Eastern Fuel Buyers Conference reception—May 2, 2017 (Disney's Yacht & Beach Club, Lake Buena Vista, FL)
 Coal Market Strategies—August 14-16, 2017 (Stein Eriksen Lodge, Park City, UT)
 Coal Trading Conference—December 4-5, 2017 (Crowne Plaza Times Square, New York, NY)

From: Betsy Monseu <bmonseu@americancoalcouncil.org>
Date: May 10, 2017 at 10:14:14 PM EDT
To: "Gunasekara, Mandy" <Gunasekara.Mandy@epa.gov>
Cc: "Washington, Valerie" <Washington.Valerie@epa.gov>
Subject: Re: American Coal Council follow-up from Eastern Fuel Buyers Conference

Thank you, Mandy.

Valerie, I have good availability Monday-Thursday next week except Mon 10-11:30 am and Wed 1:30-3 pm. I am out of town on travel next Friday.

Regards, Betsy

Betsy B. Monseu
American Coal Council

On May 10, 2017, at 9:59 PM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Betsy,
Great to hear from you and sorry that I missed you at the conference. I'd be happy to meet. I've CC'd Valerie's Washington who can help with the logistics.

Valerie, can you look to set something up for next week?

Thank you,
Mandy

Sent from my iPhone

On May 10, 2017, at 2:03 PM, Betsy Monseu <bmonseu@americancoalcouncil.org> wrote:

Hi Mandy, I missed you at the Eastern Fuel Buyers Conference as I had to depart early to return to WDC. I was pleased to see the coal trade press reports from the conference mention your comments about engaging with industry. I would like to schedule a brief meeting with you and others you suggest at EPA to introduce myself and the American Coal Council and discuss ways our organization, which represents companies from throughout the coal supply chain, can be a resource.

I appreciate your consideration. Please let me know what may work best.

Thanks and regards, Betsy

Betsy B. Monseu | CEO | American Coal Council
1101 Pennsylvania Ave. NW, #300
Washington, DC 20004
Office 202.756.4540 | Direct 202.805.2310
bmonseu@americancoalcouncil.org
www.americancoalcouncil.org

ACC 2017 Events

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Coal Trading Conference—December 4-5, 2017 (Crowne Plaza Times Square, New York, NY)

From: Betsy Monseu [<mailto:bmonseu@americancoalcouncil.org>]

Sent: Wednesday, April 26, 2017 3:09 PM

To: Mandy Gunasekara (Gunasekara.Mandy@epa.gov)
<Gunasekara.Mandy@epa.gov>

Subject: American Coal Council reception invitation - May 2 Eastern Fuel Buyers Conference

Good afternoon Mandy,

Ken Riddle of Lakeland Electric, one of the host utilities for the Eastern Fuel Buyers conference next week, provided me with your email address. I'm aware you are on the conference program as a speaker.

The American Coal Council, a coal trade organization I lead, is hosting a reception at the Eastern Fuel Buyers conference and I invite you to attend. This is a complimentary reception at Disney's Yacht and Beach Club and will be held by the Admiral pool on Tuesday, May 2, 2017 from 5:00-7:00 pm. If you'll arrive in time for our reception, it would be great to meet you. To register in advance [click here](#), or simply stop by that evening.

As information, below is some brief information on the American Coal Council (www.americancoalcouncil.org):

The American Coal Council (ACC) is a 501(c)(6) corporation in its 35th year of service to the coal sector, focusing on coal sector advocacy, education, and networking. With over 150 member companies, the ACC is among the larger trade associations representing the collective business interests of the American coal industry. The strength and uniqueness of our association is derived from the membership which includes companies across the entire coal value chain – coal suppliers, consumers (utility & industrial), traders, transporters (rail, barge, truck, terminal), and services and support providers (consultants, laboratories, engineering firms, law firms, etc.).

ACC's Mission:

- To provide relevant educational programs, market information, advocacy support, and peer-to-peer networking forums to advance members' commercial and professional development interests.
- To represent the collective interests of the American coal industry ~ from the hole-in-the-ground to the plug-in-the-wall ~

in advocating for coal as an economic, abundant and environmentally sound fuel source.

- To serve as an essential resource for industry, policy makers and public interest groups.
- To support activities and objectives that advance coal supply, consumption, transportation and trading.

I hope to meet you next week, Mandy. Best wishes in your new role with EPA, and please let me know if I can be a resource in the future. Our office is located near EPA in WDC and I will certainly make myself available to you and others there to confer on coal-related issues.

Regards, Betsy Monseu

Betsy B. Monseu | CEO | American Coal Council

1101 Pennsylvania Ave. NW, #300

Washington, DC 20004

Office 202.756.4540 | Direct 202.805.2310

bmonseu@americancoalcouncil.org

www.americancoalcouncil.org

ACC 2017 Events

Spring Coal Forum—March 7-9, 2017 (Opal Sands Resort, Clearwater Beach, FL)

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Coal Market Strategies—August 14-16, 2017 (Stein Eriksen Lodge, Park City, UT)

Coal Trading Conference—December 4-5, 2017 (Crowne Plaza Times Square, New York, NY)

Message

From: Megan Garvey [Megan.Garvey@qepres.com]
Sent: 5/2/2017 7:46:40 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Following up

Good afternoon, Mandy,

Wanted to thank you for meeting with AXPC last week. We truly appreciate your time and consideration of our perspective.

We noted a few follow-up items from our discussion. One item – is to follow up from our compliance assistance / assurance discussion and suggest specific tools or ideas. We plan on sending you our ideas once we get our thoughts organized.

We look forward to working with you, Samantha and Brittany.

I also enjoyed getting to know you a little bit after the meeting. I feel like we have a lot in common!

Thank you, Megan

MEGAN E. GARVEY
Senior Environmental Policy Advisor
P 303.595.5878 \ M 720.441.9356
1050 17th Street \ Suite 800
Denver \ CO \ 80265
www.qepres.com



Message

From: Birsic, Michael J. (MPC) [mjbirsic@marathonpetroleum.com]
Sent: 5/8/2017 2:57:24 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: [EXTERNAL] Connection

You are the best! Thanks

From: Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]
Sent: Monday, May 08, 2017 10:55 AM
To: Greenwalt, Sarah
Cc: Birsic, Michael J. (MPC)
Subject: [EXTERNAL] Connection

Hi Sarah,

I'm cc'ing Mike Birsic is a good friend who represents Marathon Petroleum Co. He'd like to see about coordinating a meeting with you and Tim Peterkoski, MPC's lead on environmental issues who will be in town on Thursday. Tim would like to touch base on ELGs.

I hope you two can find a time to connect.

Best,

Mandy

Message

From: Lee Janger [lee@armitagellc.com]
Sent: 5/22/2017 12:41:28 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Washington, Valerie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9d031c02ce3a416dad0d421ee998d5a3-VWASHING]
Subject: Meeting with Alliance for Vehicle Efficiency

Mandy,

Looking forward to our meeting tomorrow at 11 a.m. Below is a list of attendees. Please let me know if there are any questions o

Lee Janger, Alliance for Vehicle Efficiency
Jeff Breneman, Alliance for Vehicle Efficiency
Stacey Bernards, Honeywell
David Cetola, Johnson Matthey
Greg Garr, Umicore
David Lancaster, BorgWarner

Best regards,
-Lee

Lee J. Janger
Director, Legislative and Regulatory Affairs
Alliance for Vehicle Efficiency
202.607.0723
Lee@ArmitageLLC.com

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From: Lee Janger
Sent: Friday, May 05, 2017 4:16 PM
To: 'Washington, Valerie' <Washington.Valerie@epa.gov>
Subject: RE: Meeting Request

Hi Ms. Washington,

Thanks again for taking the time to speak with me just now. To confirm, my group, The Alliance for Vehicle Efficiency is meeting with Ms. Gunasekara, Ms. Samantha Dravis, and Ms. Brittney Bolden on May 23rd at 11:00 a.m. at the North Building at 1200 Pennsylvania Ave.

We will likely be a group of 5-7 people.

Thank you,
-Lee

Lee J. Janger
Director, Legislative and Regulatory Affairs
Alliance for Vehicle Efficiency
202.607.0723
Lee@ArmitageLLC.com

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From: Lee Janger
Sent: Wednesday, May 03, 2017 12:52 PM
To: 'Washington, Valerie' <Washington.Valerie@epa.gov>
Subject: RE: Meeting Request

Hi Valerie,

My apologies but I did not receive it. I just checked my spam folder and it isn't there either. In any event, May 23rd at 11 a.m. works great for us.

Please let me know if there is any specific information you will need prior to the meeting. Of course, I will send a complete list of attendees beforehand and a brief review of our group and possible topics for discussion.

Thank you again for your help.

-Lee

From: Washington, Valerie [<mailto:Washington.Valerie@epa.gov>]
Sent: Wednesday, May 03, 2017 12:49 PM
To: Lee Janger <lee@armitagellc.com>
Subject: RE: Meeting Request

Hi Lee,
I send a invite for May 23 @ 11am. I will send it again. Please call me and let me know if you received it. Thanks

From: Lee Janger [<mailto:lee@armitagellc.com>]
Sent: Wednesday, May 03, 2017 12:17 PM
To: Washington, Valerie <Washington.Valerie@epa.gov>
Subject: RE: Meeting Request

Hi Valerie,

I am hoping to follow up with you on Mandy's email from last week. We are looking to meet the afternoon of May 22nd or anytime on May 23rd. If necessary we could also meet the morning of May 24th.

Please let me know what availability Mandy and your team have on those dates, and feel free to contact me with any questions you might have about the meeting or our group.

Thank you for any assistance you can provide getting this scheduled.

Best regards,
-Lee

Lee J. Janger
Director, Legislative and Regulatory Affairs
Alliance for Vehicle Efficiency
202.607.0723
Lee@ArmitageLLC.com

www.VehicleEfficiency.com

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From: Gunasekara, Mandy [<mailto:Gunasekara.Mandy@epa.gov>]
Sent: Friday, April 28, 2017 1:18 PM
To: Lee Janger <lee@armitagellc.com>; Washington, Valerie <Washington.Valerie@epa.gov>
Subject: RE: Meeting Request

Hi Lee,

Happy to set something up. Valerie, can you set a meeting up and coordinate with either Robin or Carolyn to ensure it works with Samantha and Brittany's schedule? It would be good for us all to meet with Lee and his group.

Thanks,
Mandy

From: Lee Janger [<mailto:lee@armitagellc.com>]
Sent: Friday, April 28, 2017 12:44 PM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Meeting Request

Hi Mandy,

I am hoping to schedule a meeting with you for **the afternoon of May 22nd or anytime on May 23rd or 24th.**

For the last 8 years, I have represented an auto supplier group called the U.S. Coalition for Advanced Diesel Cars. After 8 years, we re-launched last month as the Alliance for Vehicle Efficiency. Our members include most of the largest auto suppliers in the U.S. (Honeywell, BorgWarner, Bosch, and others) We moved away

from the previous name to broaden our focus on all the technologies are members are developing for light duty vehicles. Our message, however, is ostensibly the same. We support technology neutral policies that accelerate the adoption of the most cost effective advanced technology applications across the light duty segment.

Over the years, we have met with Senator Inhofe and he was a strong supporter of several of our issues. I think you may have been present for one of our meetings with him or with committee staff several years ago.

In addition to the re-launch of our group, our main issues for discussion with EPA would include the Midterm Evaluation and the OEMs recent petition. We would also like to know what type of information the auto supplier community might be able to provide EPA to assist with the rulemaking.

Please let me know if you have any questions about this request and if you have any time to meet with us later next month.

Best regards,
-Lee

Lee J. Janger
Director, Legislative and Regulatory Affairs
Alliance for Vehicle Efficiency
202.607.0723
Lee@ArmitageLLC.com

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Message

From: Andrew Clyde [Andrew.Clyde@murphyusa.com]
Sent: 5/18/2017 11:14:22 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Follow-up Letter to our Discussion in Washington DC
Attachments: Murphy USA follow-up letter to Gunasekara (signed).pdf

Dear Mandy,

Thank you for the opportunity to share Murphy USA's perspectives on the RFS and the Point of Obligation. I appreciate the volume and breadth of comments your office received has been exhaustive. I sincerely appreciate the time you gave us to speak to you directly on the matter.

With over two decades of strategy consulting background looking at issues like this in the US downstream for firms on all sides of this debate prior to joining Murphy USA 4.5 years ago as its CEO, I would like to think that my perspective is a little more balanced than some of the arguments presented and the manner in which they are presented more respectful of the office responsible for ultimately making decisions. I believe our discussion reflected that balance and respect and the attached letter reiterates the points we discussed. I hope you find the summary and our conversation useful.

I would look forward to being a resource to your office and the EPA. I believe our earlier presentation and material was well received by the EPA as evidenced by the extent it was referenced in the EPA's denial of the petition. Please let me know if I can be of further assistance to you or others in the agency on the current or any future matter.

Sincerely,

Andrew

R. Andrew Clyde

President & Chief Executive Officer

Murphy USA Inc. | 200 Peach Street | El Dorado AR 71730
T: 870-875-7784 | E: andrew.clyde@murphyusa.com

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Andrew Clyde
President & CEO

870-875-7784
andrew.clyde@murphyusa.com



May 11, 2017

Ms. Mandy Gunasekara, Esquire
Senior Policy Advisor
Environmental Protection Agency
1200 Pennsylvania Ave NW
Washington, DC 20004

Dear Mandy:

I want to thank you for taking the time to meet with me and my colleagues to discuss the Renewable Fuel Standard program's "point of obligation." As I explained, I believe that changing the point of obligation would result in significant market disruption, higher prices for consumers, and a substantial compliance burden for hundreds of smaller, less sophisticated firms. Just as importantly, a change in the point of obligation would disincentivize the blending and consumption of renewable fuels, thereby undercutting the principal aim of the RFS program. It would also undermine the significant investments that blenders are currently making to advance the program's purposes.

Throughout this debate, there have been allegations that larger retailers, such as Murphy USA, have benefitted from "windfall profits." This allegation is false. Murphy USA's wholesale profits have remained consistent for many years despite significant fluctuations in the RIN value. As I explained, if Murphy USA or others were making "windfall profits," three things would occur. First, those profits would be indicated in Murphy USA's reported bottom-line earnings. Instead, higher RIN values have simply offset the increasing cost of fuel at the refinery gate which results in Murphy USA's supply margin becoming negative. As such, there has been no such increase in net earnings. Second, Murphy USA's rate of return on capital associated with underlying assets would increase significantly; it has remained relatively constant despite significant fluctuations in the RIN value. Third, others in the market would be aggressively purchasing pipeline and terminal positions and assets, similar to those that Murphy USA holds, which would allow them to participate in the blending and distribution of gasoline and diesel; there is no increased demand or higher prices offered for these types of assets in the market today. These realities demonstrate that the current position of the point of obligation has not resulted in Murphy USA or others similarly situated earning "windfall profits."

Merchant refiners have argued that they are forced to buy RINs on the open market and that the cost of compliance is placing them at a disadvantage. This is not correct. As they acknowledge, merchant refiners embed the value of the RIN in the price of their base gasoline and diesel. Despite this pricing practice, some merchant refiners have stated that they are not able to recover the RIN value. Again, Murphy USA disagrees. Market forces—for instance, in the beginning of this year—have resulted in large inventory overhangs during a period of reduced demand and a weak export market. Consequently, merchant refiners have had to provide deep discounts to move that excess product. While they are able to recover the value of the RIN, merchant refiners may not be able to recover all of the costs brought about by the current market. As such, refinery margins have fallen significantly since 2015 due to U.S. and global supply and demand factors, not RIN values.

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Murphy USA, Inc. | 200 E. Peach St. | El Dorado, AR 71730 | 870-875-7600 | www.corporate.murphyusa.com | NYSE: MUSA

ED_002110_00045029-00001

Moreover, in the past, some merchant refiners made strategic decisions to divest key assets such as pipelines and blending terminals, making billions of dollars in the process. Those decisions may have been prudent when refinery margins were high, but today refinery margins have fallen by more than half. Simply stated, individual business decisions and market forces—not the RFS point of obligation—have been responsible for the issues these refiners have mentioned.

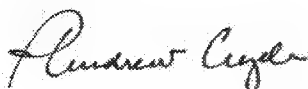
Smaller retailers also face significant market challenges. Based on their business model, they need between \$0.18 and \$0.27 per gallon of fuel margin to break even on a cash basis, while larger competitors require only a few cents per gallon to achieve profitability and the best have a zero breakeven requirement. Many of these smaller firms have not updated their facilities or developed strong customer offers. In the past, they have faced the high costs associated with replacing underground storage tanks and complying with the Stage II Gasoline Vapor Recovery regulations. Today, they additionally face the significant capital outlays for chip-and-pin credit card readers at fuel dispensers, which retailers must employ to avoid a significant increase in the risk of loss from credit card fraud and chargebacks. These market and regulatory costs—not the value of RINs under the RFS program—make it more difficult for small retailers to compete. A change in the point of obligation will not mitigate these market forces. Instead, it would disrupt the policy certainty that is essential to the flow of investment capital and economic growth.

We also discussed the likely impact that a change in the point of obligation would have on consumers. Murphy USA and other blenders use the RIN value to offset the higher costs of bringing petroleum products and renewable fuels to market. We are incentivized by the RFS program, in its current form, to invest in more fuel dispensing options at our stores and expanded blending operations at terminals, and we substantially reduce the cost of E85 (by about 45 cents per gallon) to make that product more desirable to the consumer. If blenders were designated as obligated parties under the program, they would continue to deeply discount their sales of E85, but would be forced to raise the price of E10—the primary type of gasoline used by consumers across the country—to compensate for the margin losses on E85. Consumers would therefore pay significantly higher prices at the pump.

In sum, the RFS program is a well-designed and well-functioning program. It is achieving its statutory objectives. But a change in the point of obligation would unsettle this success, create adverse consequences in the market, and fail to alleviate the problems that some merchant refiners and smaller retailers are experiencing. Continued regulatory uncertainty will indefinitely sideline the capital necessary to support the RFS program and its objectives. Accordingly, we urge the EPA to retain the current point of obligation and to dismiss the petitions pending before the Agency.

Again, I appreciate your consideration of Murphy USA's views and I would be happy to provide any additional information that would be of assistance.

Sincerely,



R. Andrew Clyde
President & CEO

Message

From: Dominguez, Alex [Alex.Dominguez@mail.house.gov]
Sent: 5/15/2017 6:39:18 PM
To: Dominguez, Alex [Alex.Dominguez@mail.house.gov]
Subject: Friday Happy Hour

Hey all,

I wanted to inform you that Friday is my last day in the Renacci office. Starting Monday I'm heading to EPA as the Policy Analyst to the Senior Advisor to the Administrator for Air and Radiation (I'm sure that will fit nicely on a business card). It has been great working with all of you. Many of you gave me my start on the Hill and I appreciate you setting me on this path. I am planning to grab a few drinks on Friday around 4:30-5:00 at Bullies so if you can make it stop on by.

Best,
Alex

Alex Dominguez
Legislative Assistant
Congressman Jim Renacci (OH-16)
328 Cannon House Office Bldg.
202-225-3876

Message

From: Wells, Erskine [EWells@bgrdc.com]
Sent: 5/18/2017 1:01:04 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: Meeting Request: Energy Star

No worries at all. Have a good night.

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: "Gunasekara, Mandy" <Gunasekara.Mandy@epa.gov>
Date: 5/17/17 8:08 PM (GMT-05:00)
To: "Wells, Erskine" <EWells@bgrdc.com>
Subject: Re: Meeting Request: Energy Star

I'm so sorry. If I had 15 mins I'd squeeze you in, I just don't even have that. My colleague is similarly booked through the afternoon. It's a reflection of the craziness of EPA these days!

Yes on conference call. I'll work with Valerie tomorrow to get that set up.

Sent from my iPhone

On May 17, 2017, at 5:25 PM, Wells, Erskine <EWells@bgrdc.com> wrote:

I talked to client and logistics won't work with flight arrivals, etc. No worries. Could we schedule a conference call with the companies and you for next week?

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: "Wells, Erskine" <EWells@bgrdc.com>
Date: 5/17/17 3:49 PM (GMT-05:00)
To: "Gunasekara, Mandy" <Gunasekara.Mandy@epa.gov>
Subject: Re: Meeting Request: Energy Star

Valerie told me you are not available. Totally understand. Is there someone more junior? These folks flew in for the meeting.

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: "Wells, Erskine" <EWells@bgrdc.com>
Date: 5/17/17 10:49 AM (GMT-05:00)
To: "Gunasekara, Mandy" <Gunasekara.Mandy@epa.gov>
Subject: Re: Meeting Request: Energy Star

Mandy, would something work tomorrow?

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: "Wells, Erskine" <EWells@bgrdc.com>
Date: 5/16/17 9:22 AM (GMT-05:00)
To: "Gunasekara, Mandy" <Gunasekara.Mandy@epa.gov>
Cc: "Washington, Valerie" <Washington.Valerie@epa.gov>
Subject: RE: Meeting Request: Energy Star

Valerie, following up on the below, we now have a meeting with CEQ at 10:30am on Thursday. Is there a time before or after that works for Mandy?

Attending with me will be:

Bryan Howard, USGBC
Elizabeth Odina, BASF
Anna Pavlova, Schneider Electric
Jim Landau, MetLife Real Estate
Joyce Mihalik, Forest City Partners
Duane Desiderio, Real Estate Roundtable

Erskine Wells
Principal
BGR Government Affairs, LLC

BGR GROUP

The Homer Building
Eleventh Floor South
601 Thirteenth Street, NW
Washington, DC 20005
Direct: (202) 661-6368
Cell: (703) 725-1066
www.bgrdc.com

From: Wells, Erskine
Sent: Wednesday, May 10, 2017 12:27 PM
To: 'Gunasekara, Mandy' <Gunasekara.Mandy@epa.gov>
Cc: Washington, Valerie <Washington.Valerie@epa.gov>
Subject: RE: Meeting Request: Energy Star

Valerie,

Our client is available all morning on the 18th. Would 10am work?

Thank you,
Erskine

Erskine Wells
Principal
BGR Government Affairs, LLC

BGR GROUP

The Homer Building
Eleventh Floor South
601 Thirteenth Street, NW
Washington, DC 20005
Direct: (202) 661-6368
Cell: (703) 725-1066
www.bgrdc.com

From: Gunasekara, Mandy [<mailto:Gunasekara.Mandy@epa.gov>]
Sent: Wednesday, May 10, 2017 9:12 AM
To: Wells, Erskine <EWells@bgrdc.com>
Cc: Washington, Valerie <Washington.Valerie@epa.gov>
Subject: RE: Meeting Request: Energy Star

Hey Erskine,
Great to hear from you. I'm happy to set up a meeting. I'm cc'ing Valerie Washington who can help with the logistics.

Valerie, it looks like I've got time mid-morning on the 18th – let's set something up for then.
Best,
Mandy

From: Wells, Erskine [<mailto:EWells@bgrdc.com>]
Sent: Wednesday, May 10, 2017 8:45 AM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Meeting Request: Energy Star

Mandy,

I hope you are well. BGR represents the US Green Buildings Council, and several of their member companies will be in town next week. Would you or the appropriate EPA person have time to visit with us regarding the Energy Star program? The group should be available from Tuesday, 16 May until Thursday, 18 May.

Attending the meeting will be representatives from the following USGBC members: Kohler, Real Estate Roundtable, Schneider Electric and BASF. Purpose of the meeting is to express their support for the Energy Star program.

Thanks for the consideration of this request. Feel free to call me to discuss further: 703-725-1066

-Erskine

Erskine Wells

Principal

BGR Government Affairs, LLC

BGR GROUP

The Homer Building

Eleventh Floor South

601 Thirteenth Street, NW

Washington, DC 20005

Direct: (202) 661-6368

Cell: (703) 725-1066

www.bgrdc.com

Message

From: Kristine Heine [kheine@globalcommunicators.com]
Sent: 5/17/2017 1:35:04 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
CC: Natalie Maciolek [Natalie.Maciolek@kohler.com]; Buddy Robinson [Buddy.Robinson@kohler.com]
Subject: Good to meet you yesterday

Mandy,

It was a pleasure to run into you yesterday after the Clay MACT meeting with Samantha and Brittany and being able to introduce you to Kohler's attorneys, Buddy Robinson and Natalie Maciolek.

As I mentioned, preserving the WaterSense program at EPA is another Kohler Co. concern. While that's not in your purview of air issues, we appreciated your directing us to Sarah Greenwalt.

Plumbing Manufacturers International (PMI)'s Stephanie Salmon has reached out to Sarah Greenwalt, as you suggested. I touched base with Stephanie after our quick discussion yesterday, and she again will ask Sarah's help in arranging a meeting to discuss the importance of the WaterSense program to PMI members, including Kohler Co.

Kind regards,

Kristine, Washington Representative for Kohler Co.

Kristine Heine
Executive Vice President
Global Communicators
1875 I Street NW, Suite 500
Washington, DC 20006
Tel: 202.371.9600
DIRECT: 703-620-0130
Email: kheine@globalcommunicators.com

Message

From: Matthew Todd [ToddM@api.org]
Sent: 5/1/2017 8:21:21 PM
To: Pruitt, Scott [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=757bedfd70ca4219b6d8046f5ce5681e-Pruitt, Sco]
CC: Dunham, Sarah [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a9444681441e4521ad92ae7d42919223-SDUNHAM]; Tsirigotis, Peter [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d19c179f3ccb4fadb48e3ae85563f132-PTSIRIGO]; Cozzie, David [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ee8c3582a39d4d81ac38f29a2b3abb2d-DCOZZIE]; Jackson, Ryan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=38bc8e18791a47d88a279db2fec8bd60-Jackson, Ry]; Dravis, Samantha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ece53f0610054e669d9dffe0b3a842df-Dravis, Sam]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Howard Feldman [Feldman@api.org]
Subject: Reconsideration of the Final Rule - Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources (NSPS OOOOa)
Attachments: 2017 05 01 NSPS OOOOa Letter to EPA Administrator Pruitt Final.pdf
Importance: High

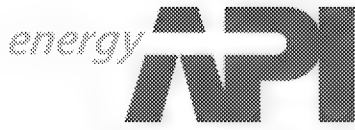
Dear Administrator Pruitt:

The American Petroleum Institute respectfully submits the attached letter in response to your April 18, 2017 letter communicating the agency's intent to reconsider certain aspects of the Final Rule, "Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources," which was published on June 3, 2016 (81 FR 35824).

Sincerely,

Matthew Todd, on behalf of Howard Feldman

Matthew Todd
API
202.682.8319



Howard J. Feldman
Senior Director

Regulatory and Scientific Affairs

1220 L Street, NW
Washington, DC 20005-4070
USA

Telephone 202-682-8340
Fax 202-682-8270
Email Feldman@api.org
www.api.org

May 1, 2017

Administrator Scott Pruitt
US Environmental Protection Agency
Washington, DC 20460

Dear Administrator Pruitt,

Thank you for your April 18, 2017 letter to the American Petroleum Institute¹ and others, communicating the agency's intent to convene a proceeding for reconsideration of the Final Rule, "Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources," which was published on June 3, 2016 (81 FR 35824). As you are aware, technological innovations and industry leadership have propelled the oil and gas industry forward despite the unprecedented level of federal regulatory actions targeting our industry during the previous administration. Consistent with President Trump's stated objectives of American energy independence and economic growth, EPA and other federal agencies should ensure that regulations are achievable and cost-effective. API supported previous EPA regulatory reviews to relieve the burdens imposed by EPA rules in 2011 and 2015, while continuing to promote public health, safety and the environment as industry and citizens support.

In addition to granting reconsideration of the fugitive emission requirements under §60.5397a and associated provisions, EPA's letter also states its intent to exercise its authority under CAA Section 307 to issue a 90-day stay of the compliance date for these requirements. API's members look forward to EPA moving expeditiously with this temporary relief. API's members would benefit from additional guidance, either in the notice of the stay or in supplemental documents, concerning the scope of the stay and how it affects inter-related leak monitoring and repair requirements. To maximize its effect, the agency should begin this 90-day period at or near the June 3rd deadline to comply with the requirements of §60.5397a and associated provisions. In advance of this, EPA should quickly review and, if appropriate, grant reconsideration of other technical issues API raised in our administrative petition submitted to Administrator McCarthy in August, 2016 (Attached).

¹ The American Petroleum Institute (API) is the only national trade association representing all facets of the oil and natural gas industry, which supports 9.8 million U.S. jobs and 8 percent of the U.S. economy. API's more than 625 members include large integrated companies, as well as exploration and production, refining, marketing, pipeline, and marine businesses, and service and supply firms.

The previous 2012 standards, developed in collaboration with industry, driven by industry's incentive to capture more of what we sell, are already effectively reducing emissions. We are encouraged by EPA's April 4, 2017 announcement to review the 2016 standards, and API supports revision of those standards. We have worked cooperatively with EPA staff and will continue to work with them to identify emission control measures that cost-effectively reduce VOC emissions and methane as a co-benefit. Additionally, as described below, we recommend that EPA act quickly to modify the rule and extend the rapidly approaching compliance deadlines while the agency reconsiders the rule.

In our petition, API raised issues on many components of the final rule that, barring additional timely action by the agency, will require our members to continue preparations and capital investment on aspects of the rule that are likely to change. Therefore, to address all of these issues and avoid unintended impacts, we urge the EPA to take the following steps:

1. Review the issues raised in API's administrative petition for reconsideration and, as appropriate, grant reconsideration and begin a rulemaking to make any appropriate changes to the rule.
2. Initiate an expedited rule amendment, to be completed within the 90-day stay period, to modify and extend, by a minimum of one year, all appropriate compliance deadlines for the petition issues (e.g., fugitive emissions, pneumatic pump, professional engineer (PE) certifications) for which EPA may grant reconsideration.

By following these actions, sufficient time will be afforded beyond the 90-day stay for stakeholders and EPA to engage and work through all reconsideration issues. We look forward to working with the agency on this important rulemaking.

Sincerely,

Howard J. Feldman

Attachment

cc: Sarah Dunham, USEPA
Peter Tsirigotis, USEPA
David Cozzie, USEPA
Ryan Jackson, USEPA
Samantha Dravis, USEPA
Mandy Gunasekara, USEPA



Howard J. Feldman

**Senior Director, Regulatory
and Scientific Affairs**

1220 L Street, NW
Washington, DC 20005-4070
USA

202-682-8340
Feldman@api.org
www.api.org

August 2, 2016

The Honorable Gina McCarthy, Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

**Re: Request for Administrative Reconsideration EPA's Final Rule "Oil and Natural Gas Sector:
Emission Standards for New, Reconstructed, and Modified Sources"**

Dear Administrator McCarthy:

The American Petroleum Institute ("API") hereby submits this petition for administrative reconsideration of the final rule entitled "Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources," published at 81 Fed. Reg. 35824 (June 3, 2016) ("Subpart OOOOa").

Pursuant to section 307(d)(7)(B) of the Clean Air Act ("CAA"), 42 U.S.C. § 7607(d)(7)(B), where it is impracticable to raise an objection during the period of public comment or if the grounds for such an objection arise after the public comment period (but within the time specified for judicial review), and if such objections are of central relevance to the outcome of the rule, the U.S. Environmental Protection Agency ("EPA" or "Agency") is required to reconsider a rule.

API represents over 650 oil and natural gas companies, leaders of a technology-driven industry that supplies most of America's energy, supports more than 9.8 million jobs and 8 percent of the U.S. economy, and, since 2000, has invested nearly \$2 trillion in U.S. capital projects to advance all forms of energy, including alternatives. Most of our members conduct oil and gas development and production operations and, thus, will be directly impacted by this final rule.

This document is divided into two parts. In the first part, we present the issues for which we believe that administrative reconsideration is warranted. In the second part, we present a number of additional issues where we believe changes to the rule are needed, but where we are not asking for administrative reconsideration. These additional issues are included because we believe it would be efficient for EPA to make these changes in the rulemaking that the Agency undertakes to accomplish administrative reconsideration of the first set of issues

We look forward to continuing to work with the Agency on improving the rule and are submitting this request for reconsideration to address a number of key issues identified in the finalized rule.

August 2, 2016

Page 2

Thank you for your consideration of this request for administrative reconsideration. Please do not hesitate to contact me (202.682.8340) if you have questions or need more information.

Sincerely,

Howard J. Feldman

CC: Janet McCabe, EPA
Steve Page, EPA
Peter Tsirigotis, EPA
David Cozzie, EPA
Bruce Moore, EPA

**API Request for Administrative Reconsideration
EPA's Final Rule "Oil and Natural Gas Sector:
Emission Standards for New, Reconstructed, and
Modified Sources"**

August 2, 2016

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I. ISSUES FOR WHICH WE REQUEST ADMINISTRATIVE RECONSIDERATION

1. The requirements for Certification by Professional Engineer finalized in §60.5411a(d) for closed vent systems and §60.5393a for pneumatic pump technical infeasibility determination at brownfield sites should be removed and stayed pending reconsideration.

The final rule includes requirements for a professional engineer (PE) to certify closed vent system designs for storage vessels and centrifugal compressors as well as certify when it is not possible to control an affected pneumatic pump at a brownfield site. The provisions requiring PE certification were not included in the proposed rule and should be reconsidered, given the inability to raise an objection during the public comment period, and stayed pending reconsideration to allow a full notice and comment process. Comments presented here would have been provided to EPA during the proposal comment period, if we were provided proper notice and comment ability. Our objection is of central relevance to the outcome of the rule because it provides substantial support for the need to revise the rule to eliminate the PE certification requirement.

Companies will be burdened with the additional costs and project delays for a third party PE to design and certify closed vent systems as few companies have an adequate staff of in-house PEs. While API appreciates EPA's recognition of some of the challenges of having such PE reviews completed, including extending the compliance date for affected pneumatic pumps from 60 days to 180 days following publication, there are still fundamental problems with EPA's approach and no extension was provided for storage vessels and centrifugal compressors. Other issues associated with the requirement to have PE certification include the following:

- The PE certification process does not add any significant value and EPA has not justified the extra expense and burden of PE certifications when there are provisions in place for compliance report submittals approved by a certifying official.
 - There is already a 'general duty obligation' in § 60.11(d) for owners and operators to ensure proper operation, and maintenance of equipment. PE certification does not relieve companies of this duty.
 - The certifying official is already required to sign off on a company's compliance with all applicable provisions.
 - There is no quantifiable benefit to the environment from this additional review, while there is significant expense involved.
 - There are direct costs associated with the PE certification process, whether companies support in house licensure of engineers or leverage third parties. However, no costs associated with obtaining PE approval were considered or provided for review during the proposal process.
- Development of in-house PE capacity will take several years. Development of a sufficient number of in-house licensed PEs to cover all states where a company operates will take considerable time. Meanwhile, though EPA has determined third-party PE certification is unnecessary, many operators will have to depend heavily on outside consultant PEs in the foreseeable future. This will add additional cost and delays to projects that EPA has not accounted for.

- It takes at least four years of experience plus additional time to satisfactorily pass required testing to obtain a PE license.
- At present, most company engineers are not PEs, and PE licensure is not a condition of employment or career development. While trained and qualified and with years of experience in the design of production facilities, these engineers are not called upon to formally certify equipment designs.
- EPA's allowance of PEs not licensed in the state where certification is needed conflicts with state and PE licensure requirements that a PE must be licensed in the state where they practice. Consequently, a PE cannot ethically certify closed vent system design or technical infeasibility based on EPA's standard, which is inconsistent and contradictory to PE licensure rules of practice. This limitation invalidates the Subpart OOOOa definition of *Qualified Professional Engineer*.

Therefore, EPA should reconsider the PE certification requirement and remove it entirely from the rule to relieve the redundancy it creates relative to each company's existing general duty obligations and the certifying official's acknowledgment. At a minimum, EPA should broaden the requirements and allow alternatives to PE Certification such as to require all designs to undergo engineering review and approval. A general duty to properly design CVS or determine technical infeasibility should be adequate for enforcement.

An administrative stay of the PE certification requirement pending the outcome of the reconsideration proceeding is needed and justified because, even though the effective date of the requirement for affected pneumatic pumps has been extended to 180 days after publication of the rule, it is highly unlikely that EPA will complete reconsideration prior to that date. As a result, absent a stay, companies will confront the costs, uncertainties and compliance barriers described above – all of which can and should be avoided through amendment of the rule.

2. Coincident with PE certification requirements for pneumatic pump technical infeasibility determinations, EPA introduced but inadequately defined "greenfield" site as there is no clarity with respect to determining when a greenfield site transitions to a brownfield site. As well, it is inappropriate to categorically prohibit a claim of technical infeasibility for greenfield sites.

The terms "greenfield" and "brownfield" sites and the use of these terms in determining compliance obligations were not proposed. Therefore, industry had no opportunity to comment. In addition, this issue is of central relevance to the outcome of the rule because, for the reasons described below, changes to the final rule are needed. Consequently, administrative reconsideration of this issue is justified.

Without a clear definition with respect to the boundary of when greenfield ends and brownfield begins, operators will be put in an untenable situation if "greenfield" is considered synonymous with "new" for NSPS thereby removing future technical infeasibility determinations for the entire life of a well site. Initial design for construction of a greenfield site may not require installation of a pneumatic pump or a control device for the early operational period of a well site. At some point later in the life of a well (which could be years), site design requirements may change where a new control and/or pump is installed and a technical infeasibility determination is justified but not available if the site is considered

greenfield throughout the life of the site. Even for a new site, process or control device design requirements may not be compatible with controlling pneumatic pump emissions.

For example, a new site design only requires installation of a high pressure flare to handle emergency and maintenance blowdowns. It may not be feasible for a low pressure pneumatic pump discharge to be routed to a high pressure flare.

Another and likely more common example would be if a new greenfield site design calls for installation of a pneumatic diaphragm pump but no control device is present. Rather, only a process heater or boiler is present. The design and operation of a given pneumatic pump and co-located process heater or boiler may not be compatible. The heater and boiler will be designed based on the process it needs to support without regard to the additional capacity or operational need to control a pneumatic pump. More specifically, due to the small size (generally 125,000 Btu per hour to 2.5 mmBtu per hour) of many heaters/boilers used at well sites, burner capacity may be insufficient to compensate for emission combustion of additional large pneumatic diaphragm pump discharge and may result in frequent safety trips and burner flame instability (i.e. high temperature limit shutdowns, loss of flame signal, etc.). Additionally, industry guidelines (i.e. NFPA 86) would prohibit the use of boilers/heaters as control devices where the following criteria are not met: the operating temperature being a minimum of 1400°F, presence of emission source safety interlocks, etc.

In summary, a process heater or boiler may only operate a few weeks or months per year or the fuel use rating of the heater may be insufficient to handle the additional capacity of a pump discharge or both. While this issue could be dealt with at “brownfield” sites as technically infeasible, there is no such allowance for this capacity issue at “greenfield” sites.

Without a technical infeasibility option, having to design and build a process heater or boiler around the capacity needs to adequately and safely control a pneumatic pump when it otherwise wouldn't be designed with this feasibility in mind is equivalent to requiring installation of a new control device, and additional cost will unnecessarily be incurred. This concept is contradictory to the rule not requiring installation of a control device or process equipment for the sole purpose of controlling a pneumatic pump.

EPA should allow for technical infeasibility determinations at all well sites and not attempt to segregate sites by greenfield or brownfield. Use of greenfield and brownfield needs to be deleted from the rule. If the two terms remain, API recommends that EPA add a timeline which defines when “greenfield site” ends and brownfield begins. API believes brownfield begins after startup of production at new well sites.

3. Clarification is required regarding location of separator finalized in §60.5375a for well completion operations.

In NSPS OOOOa, a requirement was added in §60.5375a(a)(1)(iii) *“You must have a separator onsite during the entirety of the flowback period, except as provided in paragraphs (a)(1)(iii)(A) through (C) of this section”* that was not included in the proposed regulation. Comments presented here would have been provided to EPA during the proposal comment period, if we were provided proper notice and

comment ability. Our objection is of central relevance to the outcome of the rule because it provides support for the need to revise the rule to accurately reflect EPA's intent.

The rule does not provide a definition of "on-site". For wells that flow to centralized facilities or well pads, there will not be gas gathering or flowlines that go to the well head, only the centralized facility or well pad. Also, there would not be equipment located with the well to use the gas as fuel; therefore, there would be no where to send the recovered gas except to a flare.

In VI.E.1 of the Preamble to Subpart OOOOa, EPA discusses the issue of the requirement to have a separator onsite for subcategory 1 wells. An excerpt is provided here (emphasis added):

*"... we do not have sufficient data to consistently and accurately identify the subcategory or types of wells for which these circumstances occur regularly or what criteria would be used as the basis for an exemption to the REC requirement such that a separator would not be required to be onsite for these specific well completions. In order to accommodate these concerns raised by commenters, the final rule requires a separator to be onsite during the entire flowback period for subcategory 1 wells (i.e., non-exploratory or non-delineation wells, also known as development wells), but does not require performance of REC where a separator cannot function. We anticipate a subcategory 1 well to be producing or near other producing wells. We therefore anticipate REC equipment (including separators) to be **onsite or nearby, or that any separator brought onsite or nearby can be put to use.** For the reason stated above, we do not believe that requiring a separator onsite would incur cost with no environmental benefit."*

In the above discussion, it is clear that EPA recognizes the intent to allow use of a nearby separator as part of an inline or reduced emission completion. However, the requirement in §60.5375a((a)(iii) only references "separator onsite", which is inconsistent with EPA's intent that the separator does not necessarily have to be located on the specific wellsite in order to satisfy requirements of the rule.

EPA should amend the text in §60.5375a(a)(1)(iii) to also include reference to separators both onsite or nearby clarifying that operators may opt to use production separators at a nearby production site, and the separator does not need to be located at the specific well site being hydraulically fractured. EPA should update §60.5375a(a)(1)(iii) as noted below.

§60.5375a(a)(1)(iii):

You must have a separator onsite or otherwise available for use nearby during the entirety of the flowback period.

4. The requirements in the final rule to document and report claims of technical infeasibility related to capturing of emissions during a well completion were not proposed and should be removed from the final rule.

Dating from the proposed edits to Subpart OOOO of July 17, 2014¹, EPA provided an additional three options for the disposition of flowback gas beyond routing to a gas flow line or collection system.

¹ 79 FR 41756

Specifically, Subpart OOOO has allowed for gas to also be “re-injected into the well or another well, used as an onsite fuel source, or used for another useful purpose that a purchased fuel or raw material would serve”.

These three alternate options are very rarely utilized, if ever. API members are not aware of any scenarios where gas has been re-injected into the well undergoing hydraulically fracturing or injected into another well. Beyond that, these alternatives are not utilized because the gas is not of sufficient quality to rely on as onsite fuel source or raw material for another useful purpose.

API did not previously raise concerns with these alternatives when they were introduced in 2014 as they were only potential alternatives. However, under the recordkeeping requirement in §60.5420a (c)(1)(iii)(A), EPA finalized additional requirements.

§60.5375a in the Proposed Subpart OOOOa read:

(2) All salable quality recovered gas must be routed to the gas flow line as soon as practicable. In cases where salable quality gas cannot be directed to the flow line due to technical infeasibility, you must follow the requirements in paragraph (a)(3) of this section.

(3) You must capture and direct recovered gas to a completion combustion device, except in conditions that may result in a fire hazard or explosion, or where high heat emissions from a completion combustion device may negatively impact tundra, permafrost or waterways. Completion combustion devices must be equipped with a reliable continuous ignition source.

When EPA finalized Subpart OOOOa, these two paragraphs of §60.5375a were revised to read:

(2) [Reserved]

(3) If it is technically infeasible to route the recovered gas as required in § 60.5375a(a)(1)(ii), then you must capture and direct recovered gas to a completion combustion device, except in conditions that may result in a fire hazard or explosion, or where high heat emissions from a completion combustion device may negatively impact tundra, permafrost or waterways. Completion combustion devices must be equipped with a reliable continuous pilot flame.

Under the proposed language (and the language which preceded it in the rule), operators were authorized to route gas to a completion combustion device if salable quality gas could not be directed to the flow line due to technical infeasibility. Optionally, operators could also re-inject gas into the well or another well, use the gas as an onsite fuel source, or use it for another useful purpose that a purchased fuel or raw material would serve.

Under the finalized language, operators must try all four options provided by EPA prior to routing gas to a completion combustion device and also document the infeasibility of each of the four options as described below.

The text in red in the excerpt below was not in the proposed rule, but was added to the final version of the rule.

§60.5420a (c)(1)(iii)(A):

For each well affected facility required to comply with the requirements of §60.5375a(a), you must record: The location of the well; the United States Well Number; the date and time of the onset of flowback following hydraulic fracturing or refracturing; the date and time of each attempt to direct flowback to a separator as required in §60.5375a(a)(1)(ii); the date and time of each occurrence of returning to the initial flowback stage under §60.5375a(a)(1)(i); and the date and time that the well was shut in and the flowback equipment was permanently disconnected, or the startup of production; the duration of flowback; duration of recovery and disposition of recovery (i.e., routed to the gas flow line or collection system, re-injected into the well or another well, used as an onsite fuel source, or used for another useful purpose that a purchased fuel or raw material would serve); duration of combustion; duration of venting; and specific reasons for venting in lieu of capture or combustion. The duration must be specified in hours. In addition, for wells where it is technically infeasible to route the recovered gas to any of the four options specified in §60.5375a(a)(1)(ii), you must record the reasons for the claim of technical infeasibility with respect to all four options provided in that subparagraph, including but not limited to; name and location of the nearest gathering line and technical considerations preventing routing to this line; capture, reinjection, and reuse technologies considered and aspects of gas or equipment preventing use of recovered gas as a fuel onsite; and technical considerations preventing use of recovered gas for other useful purpose that that a purchased fuel or raw material would serve.

The comments presented here would have been provided to EPA during the proposal comment period, if we were provided proper notice and comment ability. Our objection is of central relevance to the outcome of the rule because it provides substantial support for the need to revise the rule.

API believes there is a burden from the final rule language that was not considered during the proposal. More importantly, the requirement for operators to record technical infeasibility with respect to each of the four alternatives provided in the rule provides no benefit since these are not true, viable alternatives. The only scenario that should require documentation of infeasibility is the routing of recovered gas to a flow line.

Therefore, API requests EPA to modify the final rule language as follows:

§60.5375a to read:

(2) [Reserved]

(3) If it is technically infeasible to route salable quality gas to a flow line or collection system, then you must capture and direct recovered gas to a completion combustion device, except in conditions that may result in a fire hazard or explosion, or where high heat emissions from a completion combustion device may negatively impact tundra, permafrost or waterways. Completion combustion devices must be equipped with a reliable continuous pilot flame.

§60.5420a (c)(1)(iii)(A) to read:

(A) For each well affected facility required to comply with the requirements of §60.5375a(a), you must record: The location of the well; the United States Well Number; the date and time of the

onset of flowback following hydraulic fracturing or refracturing; the date and time of each attempt to direct flowback to a separator as required in §60.5375a(a)(1)(ii); the date and time of each occurrence of returning to the initial flowback stage under §60.5375a(a)(1)(i); and the date and time that the well was shut in and the flowback equipment was permanently disconnected, or the startup of production; the duration of flowback; duration of recovery and disposition of recovery (i.e., routed to the gas flow line or collection system, re-injected into the well or another well, used as an onsite fuel source, or used for another useful purpose that a purchased fuel or raw material would serve); duration of combustion; duration of venting; and specific reasons for venting in lieu of capture or combustion. The duration must be specified in hours. In addition, for wells where it is technically infeasible to route the recovered gas to from the separator into a gas flow line or collection system, ~~as specified in §60.5375a(a)(1)(ii), you must record the reasons for the claim of technical infeasibility. with respect to all four options provided in that subparagraph, including but not limited to; name and location of the nearest gathering line and technical considerations preventing routing to this line; capture, reinjection, and reuse technologies considered and aspects of gas or equipment preventing use of recovered gas as a fuel onsite; and technical considerations preventing use of recovered gas for other useful purpose that that a purchased fuel or raw material would serve.~~

5. Flares for control of Subpart OOOO affected facilities Should Not be Subject to 40 CFR § 60.18 retroactively.

In its Final Rulemaking of both NSPS Subparts OOOO and OOOOa, EPA removed the exemption from compliance with 40 CFR § 60.18 for flares in Table 3 General Provisions. By this action, it could be interpreted that EPA has perhaps inadvertently and certainly improperly imposed a retroactive application of the standards for the design and operation of flares under 40 CFR § 60.18 used to control Subpart OOOO affected facilities, including those associated with maximum velocity restrictions. As indicated by the preambles to both the proposed and final rulemakings, EPA did not consider the potential retroactive effect of this change as it pertains to flares used to control all Subpart OOOO affected facilities, specifically including, but not limited to, flares used to control vapors from process unit affected facilities at onshore natural gas processing plants subject to NSPS Subpart OOOO. In addition, EPA confounds the issue further by its suggestion that the removal of the prior exemption under Subpart OOOO stands only as a clarification of its intent in response to petitions for reconsideration received under that rule.² Regardless of EPA's claimed basis for the removal of the exemption and if the changes are interpreted to apply retroactively, EPA's final rulemaking fails to adequately consider the impact the change has on operators who have designed and installed high velocity flares (e.g. sonic) based on the prior exemption in Table 3 at onshore natural gas processing plants to control Subpart OOOO process unit affected facilities between August 24, 2011 and September 18, 2015.

EPA suggests that changes to Subpart OOOO do not constitute a retroactive change of standards and references section VI.H of the preamble for more information regarding this issue.³ In the proposed rulemaking, EPA acknowledged it was aware of flares used to control Subpart OOOO affected facilities

² See Chapter 14 of EPA's Response to Comments - Amendments to Subpart OOOO at page 14-3.

³ Id.

that are not able to meet the maximum velocity requirements under 40 CFR 60.18 during periods of startup, shutdown, emergency and/or maintenance activities.⁴ However, in section VI.H.5 of the preamble to the final rule, EPA dismisses the effect of the rule on flares at gas processing plants which cannot meet the subject velocity requirements during startup, shutdown, emergency or maintenance, and focuses only on flares used to control storage vessels, pneumatic pump, centrifugal or reciprocating compressors, which EPA suggests are able to be routed by closed vent system to low pressure flares.⁵ EPA's dismissal on this point doesn't address the use of existing flares subject to NSPS Subpart OOOO by virtue of the flares' usage at gas processing plants to control both maintenance/upset emissions from relief valves and fugitive emissions from these same relief valves that are subject to leak detection and repair (LDAR) regulations under Subpart OOOO. These relief valves cannot be routed to a low pressure flare as these valves operate with either low/no flow (fugitive emissions control) or extremely high flow (maintenance/upset emissions control). During the high flow events, data suggests the flares used to control Subpart OOOO process units at onshore natural gas processing plants can potentially exceed the maximum velocity restrictions of 40 CFR § 60.18 (b) and (c).

An interpretation of retroactive application of 40 CFR § 60.18 in Subpart OOOO for high velocity flares constructed between August 24, 2011 and September 18, 2015 to control process unit equipment leaks and pressure relief events while exempt from §60.18 as specifically listed in Table 3, would create an immediate compliance burden that will result in significant costs to replace these flares. There is no other compliance alternative available. For this reason, API respectfully requests the EPA reconsider the retroactive application of 40 CFR § 60.18 for flares in Table 3 and retain the exemption in Subpart OOOO.

⁴ 80 FR 56593, 56646 .

⁵ 81 FR 35824, 35866-35867.

II. ADDITIONAL ISSUES

1. Clarification is required for boilers and process heaters used to reduce emissions, particularly as used for pneumatic pumps.

A. There must be a clear definition of control device and recognition that boilers and process heaters are not control devices that are subject to control design requirements in Subpart OOOOa.

Under Subpart OOOOa, the provisions related to “control device” and “routed to a process” or “route to a process” are inconsistent, confusing, and in some instances, conflicting. This is particularly the case with regard to boilers and process heaters in the context of controlling pneumatic pumps. Sections 13 and 24 of our December 4, 2015 comments discussed these issues in detail.

In Chapter 5 of its Response to Comments, EPA’s explanation for not making API’s requested changes relies primarily on its requirement that control of pumps does not need to meet the 95% control efficiency (§60.5393a(b)(4)) and that allowances have been made for technical infeasibility. However, at greenfield sites, EPA disallows technical infeasibility in the final rule and mandates 95% control efficiency (§60.5393a(b)(1)), making the agency’s rationale only partially correct in its discussion of control efficiency and technical infeasibility allowances (see issue Item 2 of this letter for greenfield/brownfield sites). At brownfield sites, EPA requires reporting of design control efficiency if less than 95% (§60.5420a(b)(8)(i)(C)).

Inferring from the final rule, EPA appears to distinguish the issue of whether a boiler/heater is a control or process device by where the vent stream to be combusted is placed. §60.5413a(a)(3) exempts a boiler/heater from testing requirements if the vent stream is tied into the primary fuel or is the primary fuel for the heater firebox. This exemption indicates that EPA treats boilers/heaters as a process device. Conversely, if the vent stream is directed at the flame zone, then the boiler/heater appears to be considered a control device under the rule per §60.5412a(a)(1)(iv).

Boilers and process heaters are not designed as control devices regardless of where the vent stream is placed and are not purchased and put into service based on any inherent control efficiency design. Consequently, boilers and process heaters, at least with respect to pneumatic pumps, should only be considered as process devices, which is inherent of their operational use. If EPA intends to have these devices considered for reducing emissions from diaphragm pneumatic pumps, there should be no associated control efficiency listed in §60.5393a(b), and there should be no efficiency design requirement in §60.5420a(b)(8).

B. The control efficiency determination for boilers and heaters is not practically feasible and the requirement should be removed.

Control efficiency for pneumatic pumps is a rather meaningless number because of the variable operating conditions associated with pumps and boilers/heaters.

Pumps and boilers/heaters can be operated seasonally or on an episodic, seasonal, or otherwise intermittent basis which may not compliment the need to continually combust an affected source's emissions. A boiler or process heater may be offline at the time pump discharge is sent to the heater or boiler for combustion. In other words, it can be "hit or miss" with respect to any single pump discharge being combusted. If a boiler or heater operates only seasonally but a pump is used year round, long periods of time will occur where combustion of the pump discharge will not occur. The intermittent nature of some well site process heaters and boilers makes designed control efficiency a meaningless data point since there could be frequent periods where emission reduction of pump discharge does not occur.

Failing a definition of control device under Subpart OOOOa that eliminates the treatment of boilers and process heaters as controls, at least with respect to control of pneumatic pumps emissions, EPA should at least clarify that operators are only required to specify the level of emission reduction expected when a given control device, heater, or boiler, is in normal operation.

C. Technical infeasibility determination for boilers and heaters should be simplified.

While the technical infeasibility issue is addressed in more detail in Item I.2 with respect to greenfield and brownfield sites, EPA should explicitly list in the rule those common situations that would meet the technical infeasibility determination.

If any of these situations were to occur at a site with an affected pneumatic pump, no certifications should be required to document why pump emissions are not being controlled by a device present onsite:

- Presence of boilers and process heaters not regularly operated (e.g. seasonally used equipment).
- Flare, heater, or boiler has a rated heat capacity that would be exceeded if the discharge of pump were to be sent to it.
- Presence of only a high pressure flare(s).
- Retro-fit to existing equipment may require manufacturer certification, nameplate update and/or void equipment / emissions warranty for purchased or rental equipment.
- Minimal space allotted for emission gas routing and heater/boiler system integration.

If the requirement to certify technical infeasibility remains, then, for the above situations, which will be some of the most common, operators should only be required to document and not certify the cause of the infeasibility. This approach would also be consistent with API's comments above that PE certifications should be removed from the rule and stayed pending reconsideration. As discussed in Item I.1, API believes the PE certification adds burden while not adding emission reductions and, as is the case with all required PE certifications in the rule, this requirement was not proposed originally and thus we were not provided proper notice and comment ability.

2. The compliance assurance requirements for a closed vent system (CVS) routing emissions from a pneumatic pump to a control device should be aligned to the requirements for storage vessels and not centrifugal and reciprocating compressors as currently finalized.

As noted in our December 4, 2015 comment letter on the proposed Subpart OOOOa, the compliance provisions related to the capturing of emissions from pneumatic pumps should be consistent with the requirements associated with closed vent systems for storage vessels and not those for wet seal centrifugal compressors and reciprocating compressors. Pneumatic pumps are most often located at well sites and small compressor stations that are more likely to have control devices installed to control emissions from storage vessels.

However, as finalized, the rule currently requires the same monitoring as required of affected centrifugal and reciprocating compressors – i.e. annual method 21 in addition to OGI monitoring for determination of fugitive leaks for closed vent systems for pneumatic pumps. These requirements are inappropriate, unduly burdensome, and duplicative. The costs for this requirement were not included in the cost analysis, and the negligible amount of emissions from pneumatic pumps does not justify this additional expense. The olfactory, visual, and auditory (OVA) inspection requirements associated with storage vessel closed vent systems are more appropriate.

The requirements for inspection and monitoring of closed vent systems associated with pneumatic pump affected sources should be moved from §60.5416a(a) & (b) (centrifugal and reciprocating compressors)⁶ to §60.5416a(c) to be consistent with the requirements for affected storage vessels. Alternatively, EPA could simplify all closed vent system inspection and monitoring requirements to have all systems subject to the provisions of §60.5416a(c).

3. There should be a pathway to reduce LDAR survey frequency to annual for well sites and semi-annual for compressor stations.

In comments on the proposed Subpart OOOOa, API explained why a fixed annual frequency would be the appropriate frequency for well sites and compressor stations. Cost effectiveness determinations did not correctly capture costs and subsequent benefits. The model plant used for the cost effectiveness determination did not adequately reflect that most well sites are much smaller than the model plant used in the EPA's analysis, which results in misrepresentation of smaller sites in the cost effectiveness determination. New industry data collected by an API member company (See Attachment A), shows that leak rates can remain well below the target leak threshold of 1% that was proposed with a fixed annual survey program.

EPA should update the model plant basis to be more reflective of actual well sites and revise cost effectiveness since the original analysis was based on unrealistic prices and emission reduction potentials. EPA should also consider evaluating the monitoring data becoming available from various new state programs to better inform the basis of assumptions throughout the analysis. (See section 27.3 of API's December 4, 2015 comments.) At a minimum, EPA should only initially require semi-annual or quarterly surveys for 2 years and then allow annual surveys for sites that do not have leaking a significant number of leaking components.

⁶ Note also that there is no reference in §60.5393a for the CVS provisions required in §60.5416a(a); only §60.5416a(b) is listed. This leaves confusion as to EPA's intent regarding whether §60.5416a(a) would apply to a CVS routing emissions from a pneumatic pump.

API recommends providing an optional threshold of six (6) leaking components to allow monitoring frequency to be reduced since six leaking components represents 1% of components in EPA's model plant for gas well sites. Note that with a six leaking component threshold, survey frequency is more stringent for sites equal to or larger than the model plant and less stringent for the smaller sites, which were not properly represented on the cost effectiveness determination.

4. There should be an exemption from LDAR requirements for new low production wells and a pathway to discontinue LDAR at new wells that become low production wells.

In the preamble of the rule proposal, EPA solicited comment on the air emissions associated with low production wells, and the relationship between production and fugitive emissions. Specifically, EPA was interested in the relationship between production and fugitive emissions over time. EPA also solicited comment on the appropriateness of this threshold for applying the standards for fugitive emissions at well sites, in addition to whether EPA should include low production well sites for fugitive emissions and if these types of well sites are not excluded, should they have a less frequent monitoring requirement.

While the amount of production through a particular facility does not directly impact the amount of fugitive emissions, the number of fugitive components at that facility can increase if additional equipment is added to handle an increase in production (for instance a new well brought online with an additional train of process equipment), and can decrease substantially as production declines if production equipment is either disconnected or removed from the site so that it may be utilized elsewhere or sold. Typically, stripper wells have decreased in production to the point where there may be minimum equipment on site compared to average higher production wells for which EPA's model plant was based. (Note: the average oil stripper well in the U.S. averages approximately 2 BOEPD, even though one threshold for classification as a stripper well is 15 BOEP).

As indicated in Section 27.2.4 of our December 4, 2015 comments, sites with equipment configurations or component counts significantly less than EPA's model plants should be exempt from the LDAR requirements based on cost effectiveness. EPA is not correct in their Response to Comments (EPA-HQ-OAR-2010-0505-6983, Excerpt 17) that suggests the model plant cost analysis should equate to all well sites, even those with significantly fewer components, since there are larger well sites that have more components. The best system of emission reduction (BSER) is not based on a calculated average value, but rather it establishes a threshold limit where controlling a source above the threshold is considered cost effective and controlling a source below the threshold is not. One example of this is found in 40 CFR Part 60, subpart JJJJ where applicability and levels of control are linked directly to rated horsepower, which is generally proportional to potential emissions. There is a threshold (e.g. rated horsepower) where technology limits are cost effective and below which they are not. As communicated to the Agency previously, API continues to recommend EPA apply a similar approach for low production wells in regards to LDAR because the typical count of components at those facilities is substantially less than the EPA's model plant analysis.

In addition, low production sites typically have lower operating pressures than average high production sites. Most low production sites operate with a gas gathering system operating at relatively low pressures (<50 psig) because the depleted well cannot provide enough pressure to get into a typical gas gathering pressure of 125 to 200 psig. The number of fugitive components and operating pressure are the two variables that determine leak rates from fugitive components. While production rate does not

directly affect the amount of fugitive emissions from a site, it is an appropriate surrogate in the case of low production wells because higher production sites typically have enough wellhead pressure to operate at the higher pressures needed to get into a 125 to 200 psig gas gathering system.

EPA should revise the rule to provide an exemption for low production wells [15 BOED (stripper well)] as requested in API's prior comments. API suggests low production wells be considered wells with < 15 barrels oil equivalent production per day (BOED), also known as stripper wells. Additionally, EPA should provide a mechanism to cease LDAR surveys when production from well sites drops below 15 BOED. The cessation of LDAR after production drops is analogous to the ability the rule provides to remove a control device after emissions from a storage vessel drop.

5. Oil wells should be exempt from the LDAR requirements.

Based on EPA's estimates from the rule proposal, LDAR requirements for oil well sites were not cost effective. Accordingly, API commented that oil wells should be exempt from the Subpart OOOOa LDAR requirements in Section 27.2.8 of our December 4, 2015 comments.

While finalizing the rule, EPA revised the model plant assumptions for oil well sites significantly. This is described in Section 4.2.2.3 of the Final Technical Support Document (TSD). As described in the TSD, EPA created two oil well site model plants, one representing oil well sites with < 300 GOR and one for sites with greater than 300 GOR. The less than 300 GOR oil well site model plant is essentially the same as the model plant proposed. However, for the greater than 300 GOR oil well site model plant, EPA arbitrarily added components to the site. EPA stated:

"To develop the model plant for oil well sites with a gas-to-oil ratio greater than 300 standard cubic feet of gas per stock barrel of oil (greater than 300 GOR), three meters/piping were added to the equipment counts included for the less than 300 GOR model plant to account for the handling of the natural gas from the well."

There are several problems with the approach EPA took in updating the model plant.

- EPA made significant changes to fundamental assumptions regarding the component counts. These changes resulted in large changes to the cost effectiveness values as the emissions per site more than doubled due to the change.
- EPA is assuming that an oil well model plant with greater than 300 GOR would look exactly like a gas well in terms of the numbers of components associated with metering and piping. In fact, the gas well site assumptions were used directly for the greater than 300 GOR oil well sites.
- EPA is treating "meters/piping" as if it is a single piece of equipment and scaling the number of "meters/piping" based on the assumed number of wells present. In reality, there are many cases where no gas metering occurs at a well site. Further, it is even more infrequent for there to be a need to add proportionally more piping or meters as more wells are brought on line at a given site. The sharing of equipment is a key benefit of multi-well sites.

EPA's updated analysis, indicates, that for oil wells greater than 300 GOR, the costs per ton of methane and per ton of VOC were 2 times higher than for gas wells. Further, for oil wells less than 300 GOR costs per ton were 4 ½ times higher than for gas wells. Therefore, at a minimum, EPA should exempt oil well

sites less than 300 GOR from the leak detection and repair requirements, as control of these facilities is still not cost-effective.

6. The timing of LDAR Surveys should be updated to allow for integration into existing LDAR programs.

The final rule states that an initial survey must be completed within 60 days of start of production for a well site or within 60 days from startup or modification of a compressor station. Subsequent surveys then are to take place on a semiannual basis for wells sites and a quarterly basis for compressor stations. The implementation of LDAR programs is not trivial; there are numerous challenges to building a robust program. While API appreciates EPA's recognition of this by providing for a one-year phase in for the LDAR requirements, there remain challenges with the required timing of initial inspections. Given the significant distances between many oil and gas sites, the requirement to have an initial inspection within 60 days creates significant burden for very little benefit when the initial inspection could easily be rolled into the next periodic inspection for the other sources in that area. Furthermore, many sites are located in extremely cold climates in the intermountain west or Alaska that may not be reachable to do the LDAR surveys within 60 days (see also item immediately below).

API recommends EPA allow 180 days for the initial survey. It is noted that this timing is not expected to result in significantly more emissions. If a 180 day period were allowed, on average, half the sites would likely be surveyed at less than 90 days and half would likely be surveyed between 90 to 180 days.

7. The LDAR requirements must include adequate provisions to account for extreme weather in cold climates.

The temperatures on the Alaskan North Slope, and certain other areas throughout the country, are bitterly cold during winter months and adequate provisions must be considered in applying the LDAR provisions in the Subpart OOOOa.

A. The operations on the Alaskan North Slope should be categorically exempt from the LDAR requirements.

EPA set this precedent within Subpart OOOO and now Subpart OOOOa by allowing for an exemption from LDAR in §60.5401(e) and §60.5401a(e) for natural gas processing plants located on the Alaskan North slope. EPA should consider similar exemptions from LDAR for well sites and compressor stations since these operations experience the same harsh conditions.⁷

In the final Subpart OOOOa, the minimum requirement between the semi-annual surveys is 4 months for well sites. The semi-annual surveys on the Alaskan North slope could only be conducted in May/June and September/October due to sustained low winter time temperatures (approximately five consecutive months with average temperature below 0 degrees Fahrenheit). While EPA acknowledged

that an exemption was needed for compressor stations and provided a waiver for quarters where the ambient temperatures are below 0 degrees Fahrenheit, the same was not done for well sites. EPA described the rationale for this by assuming there would be no 6-month period where all months were below 0 degrees Fahrenheit average. The rule requires an OGI on newly affected sites within 60 days of completion, which is not practical on the Alaskan North Slope five months of the year. For example, if a well is completed at the end of November, an OGI would be required by the end of January. This would not be possible as the ambient temperatures in mid-November through mid-April are very rarely above 0 degrees Fahrenheit on the Alaskan North Slope. Moreover, the 30-day repair window does not accommodate the reality on the Alaska North Slope that parts (custom parts designed for Arctic environment) may be unavailable, and there is no delay of repair provision for this issue.

EPA should consider an exemption for operations on the Alaskan North Slope. At a minimum, EPA should allow for a waiver at well sites similar to the provisions provided for in §60.5397a(g)(5) for compressor stations and extend the initial survey frequency to 8 months (240 days) to adequately account for weather conditions in this region. Extension of the initial survey timing would allow for the survey to coincide with semi-annual survey frequencies. In addition, it would be appropriate to include as a reason for delay of repair, parts unavailability for the Alaska North Slope.

B. Inclement Weather Considerations for completing LDAR are necessary.

For other parts of the country in the Lower 48 that experience sustained inclement weather (Wyoming, North Dakota, Colorado, etc.), EPA should provide an additional extension of time to complete the initial and subsequent surveys due to possible road closures, accessibility of the site and safety of personnel. For example, it is common in states like Wyoming and North Dakota for a snow storm to cover the ground in multiple feet of snow, which would prevent access to many remote well site and compressor station locations. Extended periods of high winds are also common and similarly impact ability to complete surveys.

At a minimum, a 30 day extension should be granted to adequately handle unforeseen inclement weather events.

8. There should be a simple process for determining State Equivalency for the LDAR requirements at the State level; not just the process outlined in §60.5398a for Alternative Means of Emissions Limitations.

The Alternative Means of Emission Limitation (AMEL) process described in §60.5398a and §60.5402a are conceptually helpful, but the process appears to be limited in terms of true practical benefit. EPA's intent is not explicitly clear. For example, once an AMEL has been approved, can it be used by anyone operating in that particular state? While this should be the case, it is not clear. It is inefficient to have multiple operators petitioning for the same equivalency if all operators in a state are subject to the same state requirements. The inefficiency of individual operator petitions will lead to extensive delays of petition approval. EPA's language in the Subpart OOOOa seems to indicate that only owners/operators can apply; however, the potential for various trade groups to petition on behalf of its members in a state would avoid duplicative work by individual operators and burden on EPA. Additionally, under the proposed approach, it is not clear exactly what happens if the state subsequently revises its LDAR

requirements. Would the AMEL become invalid? Would there be a grace period to request an update to the equivalency determination?

EPA should consider additional AMEL processes or provide guidance to reduce burden on operators and EPA. For example, EPA should consider allowing trade associations to petition on behalf of operators. At a minimum, EPA must clarify that upon approval of any request for a particular state, all operators in that state can immediately rely upon that equivalency determination.

9. The definition of modification for LDAR should only include wells that are hydraulically refractured in combination with the installation of new production equipment on site.

As mentioned in our December 4, 2015 comments regarding exemption of low production wells from LDAR, the amount of production, in and of itself, does not increase or decrease the amount of fugitive emissions emitted from a site with the relative same number of fugitive components and same approximate operating pressure. A well that is refractured typically does not require additional production equipment and does not typically operate at a pressure higher than before the refracturing since that pressure is set by the gas gathering system pressure. Therefore, as long as a significant piece of processing equipment is not constructed along with the refracture, there is no emissions increase and there is no "modification" as defined in CFR Part 60.2

API recommends that EPA make the following revisions:

- Revise the last sentence in §60.5365a(a): ... *However, hydraulic refracturing of a well, with the construction of additional permanent process equipment (storage vessel, separator, compressor, heater treater, or meter-run), constitutes a modification of the well site for purposes of paragraph (i)(3)(iii) of this section, regardless of affected facility status of the well itself.*
- Revise §60.5365a(i)(3)(iii): *A well at an existing well site is hydraulically refractured and additional permanent process equipment is constructed (storage vessel, separator, compressor, heater treater, or meter-run).*

10. The digital photo/video requirements associated with LDAR provision in §60.5420a should be removed.

As documented in EPA's Response to Public Comment document (see EPA-HQ-OAR-2010-0505-6924), EPA responded to a request from the State of Arkansas seeking removal of the requirement to keep photograph records by stating: *"The date-stamped digital photograph serves as a record that someone performed a monitoring survey at the site. In the traditional LDAR scenario, the owner or operator tags all of the equipment that must be monitored, and when the Method 21 operator subsequently inspects the affected facility, the operator scans each component's tag and notes the component's instrument reading. This log serves as a documentation of the LDAR monitoring survey. In the fugitive emissions program under subpart OOOOa, we are not requiring owners and operators to document readings for each component, but we still need a compliance assurance mechanism to document that a monitoring survey was performed. We believe that keeping a digital photograph from the survey is a quick and easy way to fulfill this requirement."*

There are two major issues with EPA's logic in requiring these records. First, a digital photo technically only proves that someone was present on site and not the completion of an emission survey. Second, EPA continues to equate the sources covered under OOOOa with sources covered by "traditional LDAR". Chemical plants and refineries with traditional LDAR programs have full-time dedicated staff on site to manage the significant demands associated with running a "traditional LDAR" program. This is very different from un-manned remote production facilities.

API believes that records of repair and tagging of leaks in addition to general recordkeeping validates completion of surveys. EPA should remove the digital photo/video requirement for each OGI survey. At a minimum, EPA should modify the rule to make the photo requirement optional similar to that for REC recordkeeping, where the use of photographs is an alternative to other recordkeeping requirements.

11. Monitoring plan observation path and sitemap requirements under §60.5397a(d) are excessive and should be removed.

A company monitoring plan will cover all the relevant material needed for an effective LDAR program. While EPA eliminated the need for site-specific plans, the requirements for inclusion of site-specific information within the plan remain. There is no added benefit and there is significant added cost of developing hundreds and up to thousands of site-specific details to be included in monitoring plans.

The proposed requirement for site-specific monitoring plans, including the requirement to specify an observation path for each site, is unnecessary and the requirements are onerous. Many times, production areas do not have site maps developed for each site. Development of a sitemap would be solely for this rule. The cost of developing site maps for every site was not included in the cost evaluation for LDAR. Furthermore, the requirement to specify an observation path for each site is unnecessary for oil and natural gas well sites and compressor stations. The person conducting the survey must be trained and have the knowledge and ability to use the monitoring device.

Therefore, EPA should remove the requirements listed under §60.5397a(d)(1) and (2).

12. Delay of Repair Provisions require additional clarity.

In the Preamble of the final rule (FR 35858), EPA states:

We also agree that a complete well shutdown or a well shut-in may be necessary to repair certain components, such as components on the wellhead, and this could result in greater emissions than what would be emitted by the leaking component. The EPA does not agree that unavailability of supplies or custom parts is a justification for delaying repair (i.e., beyond the 30 days for repair provided in this final rule) since the operator can plan for accessible or obtaining the parts within 30 days after finding the fugitive emissions.

Based on available information, it may be two years before a well is shut-in or shutdown. Therefore, to avoid the excess emissions (and cost) of prematurely forcing a shutdown, we are amending the rule to allow 2 years to fix a leak where it is determined to be technically infeasible

to repair within 30 days; however, if an unscheduled or emergency vent blowdown, compressor station shutdown, well shutdown, or well shut-in occurs during the delay of repair period, the fugitive emissions components would need to be fixed at that time. The owner or operator will have to record the number and types of components that are placed on delay of repair and record an explanation for each delay of repair.

§60.5397a(h)(2) states:

If the repair or replacement is technically infeasible, would require a vent blowdown, a compressor station shutdown, a well shutdown or well shut-in, or would be unsafe to repair during operation of the unit, the repair or replacement must be completed during the next compressor station shutdown, well shutdown, well shut-in, after an unscheduled, planned or emergency vent blowdown or within 2 years, whichever is earlier.

This language was not in the proposed rule. The proposed rule for delay of repair was as follows:

If the repair or replacement is technically infeasible or unsafe to repair during operation of the unit, the repair or replacement must be completed during the next scheduled shutdown or within 6 months, whichever is earlier. (from page FR 56611)

While API appreciates EPA's recognition that it was not appropriate to require a shutdown after a maximum of six (6) months as EPA originally proposed, the language finalized in Subpart OOOOa requires more clarity. Additional clarity is needed because the language in §60.5397a(h)(2) presumes that various shut down events and well shut-ins would necessarily result in the blow down of all equipment located on site (including the leaking component on delay of repair). This is not accurate. For example, during a well shut-in, some equipment on site may remain isolated, but under pressure (such as the line pressure leaving a well pad).

Further, there are commonly occurring, brief events that could be interpreted as well shutdowns or shut-ins, but should not be. These include: short interruptions in production to control reservoir pressure and manage well life such as plunger lift, pump rod, and manual intermittent well flow control. In addition to these events being very short, some are automated. The events are driven by the need to react to field conditions and, in most cases, they are not possible to predict and plan repairs of leaking components around.

While EPA recognizes that wellhead components may need leak repair, a leak in the master valve or connections below the master valve or at the bradenhead is a special situation that EPA needs to consider. Above the master valve of the Christmas tree, a leak can be repaired provided the master valve or other valve below or behind the leak doesn't leak when closed. Christmas trees are configured differently depending on the expected pressure and flow of the well, and high pressure trees may have dual master shut-in valves while low pressure trees may have only one. However, the lowest master valve is the isolation valve of last resort. If it is the source of the leak or the valve will not close properly to allow shut in of the well if needed to isolate it from the wellhead leak, or the bradenhead connection below the master valve is the source of the leak, a workover will most likely be needed to set a plug downhole to isolate the well so that a wellhead leak can be repaired. If the leak needing repair is small and not a safety concern, then mandating a leak repair within 2 years would not seem appropriate as a needed workover is a significant cost in addition to the cost of repairing or replacing the leaking component. For this situation, a delay of repair for a wellhead should be conditionally based on when a

workover is needed for other downhole work and should not be subject to a 2 year limitation. A workover may be less than 2 years in some cases, but it can also be more.

In some cases, such as on the Alaska North Slope, the shutdown of a facility or a group of facilities in the winter can pose significant risks, including potentially the lack of primary electricity generation and space heating, and the potential for idle flow lines to gel or freeze. Backup diesel power generation is available only in limited capacities, and has higher emissions than gas turbines. In such extreme cases, bringing critical facilities back on line should not be delayed for relatively minor repairs for fugitive methane emissions. The rule should allow for such overriding considerations and not put the operator in a position of having to elect between regulatory compliance and prudent facility operations.

API proposes revising the language found at §60.5397a(h)(2) to read:

If the repair or replacement is technically infeasible, would require a vent blowdown, a compressor station shutdown, a well shutdown ~~or well shut-in~~, or would be unsafe to repair during operation of the unit, the following special provisions apply. For wellhead component repair or replacement that requires a workover for downhole work to isolate the well from the wellhead leak, repair must be made not later than the next scheduled workover to repair or recondition the well. Otherwise, the repair or replacement must be completed during the next event requiring a blowdown of the equipment on which the leak was detected, with the shutdown lasting more than one day (e.g. compressor station shutdown, well shutdown, ~~well shut-in~~, or after a ~~non-scheduled, planned or emergency vent blowdown~~) or within 2 years, whichever is earlier.

13. Issues with Compliance Demonstration Requirements for Combustion Devices and Flares Not Addressed.

EPA has failed to adequately respond to and understand concerns that API raised in our December 4, 2015 comments on the control device testing and monitoring compliance assurance related to measuring the volumetric flow rate as required under §60.5413a(b)(2) and under §60.18(f)(4) from storage vessels. Using Method 2, 2A, 2C, or 2D is not technically feasible⁸.

EPA's response to comment, copied in below, did not fully address API's comments, nor did EPA cite a specific meter or a specific scenario where EPA has performed testing using Method 2, 2A, 2C, or 2D at a well pad. Specifically, EPA has not adequately shown resolution of the technical challenge of directly measuring the volume of material resulting from the flash of materials in storage vessels that occurs only when the separator dumps condensate to the storage vessel.

The impact to environmental emissions controls is that flow to the control device varies from essentially zero to high flow rates and quickly back to zero rapidly and often. This highly variable, non-steady state flow mandates equipment to be sized larger than ideal steady state conditions would dictate and makes flow measurement infeasible, particularly to meet the requirement to accurately measure such volume

⁸ See Comments 12.1, 12.3, and 12.5 of API's December 4, 2015 comments on Subparts OOOO and OOOOa.

within ± 2 percent. Industry has found no such flow meter available that can handle the variable flow which occurs with many of our combustion devices.

EPA has not provided industry with information of such a meter either. A turbine meter with a flow totalizer can be used, however if the upper or lower ranges are exceeded during the 1-hour test, the accuracy of the totalizer may be compromised. For a pitot tube, only a finite number of traverse sets can be collected during a 1-hour period, and can only be used if there is a constant flow, which is not the case with tank flash.

Aside from the technical challenges of obtaining an accurate flow reading for a performance test, there are safety risks for testing personnel due to the need to access the flow line feeding the control device while equipment is operation and flow to device is occurring. To adequately mitigate these risks, a facility shutdown, potentially including the shut-in of numerous wells would need to occur. It is not believed this was EPA's intent as these costs were not considered in rule development. Otherwise, a permanent flow meter would have to be installed, which EPA also did not include in the cost of the control device.

The following excerpt is from EPA's discussion of this in Response to Public Comments Document (Chapter 11):

Response: Concerning the portion of the comment related to auto-ignition devices, see response to DCN EPA-HQ-OAR-2010-0505-6808, Excerpt 17. Concerning the portion of the comment related to sonic flares, see response to DCN EPA-HQ-OAR-2010-0505-6846, Excerpt 1.

The EPA agrees with the commenter on the ambiguity in regards to the requirements for flares used to control storage vessel emissions. We have revised the final rule to make our intent clear that flares are an acceptable control options under §60.5412(d) and §60.5412a(d) and to add applicable performance requirements for these flares.

We are not providing an exemption for low-pressure flares to operate outside of the requirements of §60.18 during malfunction events. The restrictions in §60.18 ensure that the flare will achieve the desired destruction efficiency. The standard for destruction efficiency applies at all times, even during startup, shutdown, and malfunction. Allowing an exemption during these times provides no compliance assurance that the standard is achieved.

We disagree that a performance test for flares is unnecessary or burdensome. The performance test ensures that the flare maintains a high destruction efficiency. Determining volumetric flowrate is a simple demonstration. While we acknowledge that engineering calculations can be a valuable tool for demonstrating compliance, actual measurements are necessary to demonstrate the accuracy of the engineering calculations. Actual measurements are also a useful tool for correlating and adjusting engineering calculations.

We do not believe that there is a technical infeasibility issue in measuring the gas flow to the flare. While we believe that there will be a high enough flow to the flares to easily measure the flow as the performance test should only be performed at representative conditions, we note that the EPA flow methods are capable of handling low, intermittent and non-steady flow conditions.

Finally, we note that the commenter previously stated that the EPA was incentivizing flare use by requiring measurement of gas flow on enclosed combustion devices, even though an enclosed combustor “yields higher destruction efficiencies than flares”. The commenter further stated, “It is counterproductive for the environment to disadvantage enclosed combustors”. While the EPA is not requiring a particular control device in Subpart OOOOa, in light of the commenters previous statement about not disadvantaging enclosed combustors, we do not believe that it is prudent to remove compliance demonstrations from flares when enclosed combustors are subject to such a requirement. All control devices should perform a demonstration that they are capable of achieving what they are required to achieve.

Also, EPA has failed to justify why compliance for a MACT standard (NESHAP HH) is cost effective and necessary under an NSPS for small, dispersed, unmanned facilities in response to Comment 12.2.

The compliance demonstration requirements are still on a mass basis versus a volume basis which the standards are set at as API noted previously⁹.

EPA had proposed revisions to the outlet concentration compliance method of §60.5412a(d)(1)(iv)(B) raising the TOC (minus methane and ethane) level from 20 ppmv to 600 ppmv; however, in the final rule this value was changed to 275 ppmv without the opportunity to comment.

API requests that EPA review this issue further and revise the performance testing criteria accordingly. At a minimum, API requests that EPA provide language in the rule to allow for the option to petition for an alternative compliance demonstration for flares and non-certified enclosed combustors.

14. Requiring use of the Compliance and Emissions Data Reporting Interface (CEDRI) if EPA releases the electronic reporting form 90 days prior to the report due date is insufficient for compliance.

As mentioned in our December 4, 2015 comments, it is inappropriate for EPA to require electronic reporting under the Subpart OOOOa before the system is demonstrated capable of accommodating the unique nature of the oil and natural gas industry. The electronic reporting system is not proven generally at this time. Further, the system will require configuration to allow the current area based reporting versus facility by facility. In the past, system revisions have resulted in significant IT challenges, and appropriate time needs to be allowed for the agency to develop, QA/QC, user test and train reporters on the new system. Operators need a significant amount of time to update internal systems to efficiently use CEDRI.

A poorly designed form without adequate testing is likely to result in additional burden to industry with no environmental benefit. Without a final CEDRI rule, more time may be needed to resolve issues in the final rule through the petition process. Finally, EPA cannot require industry to regularly monitor the EPA website for the availability of the CEDRI functionality required in the Subpart OOOOa.

EPA should amend the final rule language to formally allow for continuation of the initial reporting approaches from Subpart OOOO for three years to allow for rollout of the electronic reporting system. In addition, EPA should have a beta test period for CEDRI form before finalizing the form for industry

⁹ Comment 12.4 of API’s December 4, 2015 comments on Subparts OOOO and OOOOa.

use. At a minimum, EPA should amend the rule language to require CEDRI reporting only if the form is available for a minimum of 1 year prior to required reporting, not the 90 days as required in the current rule.

15. The definition of Capital Expenditure should be removed in §60.5430 of Subpart OOOO as it could be interpreted to imply retroactivity and the OOOOa procedure for calculating capital expenditure should be revised.

In its final rulemaking, EPA added a definition for “capital expenditure” to both Subpart OOOO and Subpart OOOOa claiming to “update[] the formula to reflect the calendar year that subpart OOOO was proposed, as well as specified that the B value for subpart OOOO is 4.5”¹⁰. The rule could be interpreted to impermissibly and retroactively alter the definition under Subpart OOOO. Under such an interpretation, EPA’s revision to the Subpart OOOO definition, while cloaked as an update, would apply a legally impermissible retroactive calculation of “capital expenditures”. EPA has not demonstrated that the CAA authorizes EPA to retroactively promulgate capital expenditure rules for evaluating modifications. See *Bowen v. Georgetown University Hosp.*, 488 U.S. 204, 471 -72. (1988) (“Retroactivity is not favored in the law.” “The power to require readjustments for the past is drastic.”). Before EPA can make retroactive changes to Subpart OOOO, it must establish that the CAA allows for retroactive rulemaking. *Id.* (“it is axiomatic that an administrative agency’s power to promulgate legislative regulations is limited to the authority delegated by Congress.”). EPA has not done this. Moreover, EPA states that “our intent was not to recreate a retroactive requirement by revising subpart OOOO.”¹¹

Subpart OOOO previously did not separately define “capital expenditure” leaving the only applicable definitions as those included in 40 CFR § 60.2 and/or NSPS Subpart VV.¹² Prior to the rulemaking, (specifically from August 23, 2011 through September 18, 2015), if an operator of an onshore natural gas processing plant had a project at a process unit at the plant, which resulted in a physical or operational change that might be considered a modification, they had to rely upon the provisions associated with NSPS VV. A determination would have been made as to whether a facility change was a modification, i.e. resulted in a physical or operational change that caused an increase of emissions and required a capital expenditure. By changing the definition in Subpart OOOO, it could be interpreted that EPA appears to force operators to re-evaluate prior applicability determinations. Such a scenario would be unreasonable. In EPA’s response to comments (section VI.H of preamble and Chapter 14 of Response to Public Comment document), this issue is lumped in with other reconsideration items and does not appear to have been considered adequately by itself.

Additionally, the formula provided by EPA in the definition for Capital Expenditure under Subpart OOOO does not work for a process unit constructed during 2011. For a project where capital expenditure was

¹⁰ 81 FR 35867.

¹¹ 81 FR 35866.

¹² Previously, for all terms not otherwise specifically defined, Subpart OOOO incorporated by reference the definitions found in the Clean Air Act, in Subpart A and Subpart VVa of 40 CFR Part 60. Subpart VVa’s definition of a “capital expenditure” was stayed effective June 2, 2008. See 73 FR 31376 (June 2, 2008); and 73 FR 31379 (June 2, 2008). Thus, as NSPS Subpart KKK cross referenced NSPS Subpart VV, in order to analyze whether a “capital expenditure” occurred for purposes of determining whether a project was exempt from being a modification under 40 CFR § 60.14, an operator employed the terms as defined under 40 CFR § 60.2 and Subpart VV.

being considered, the formula results in the need to take the $\log(0)$, which mathematically can only be represented by negative infinity.

EPA must remove the definition of Capital Expenditure from Subpart OOOO to resolve the potential enforcement interpretation of its retroactive applicability, and to comply with Supreme Court rulings on impermissible retroactive application. *Bowen*, 488 U.S. 204; *Greene v. United States*, 376 U.S. 149, 160, 84 S.Ct. 615, 621–622, 11 L.Ed.2d 576 (1964); *Claridge Apartments Co. v. Commissioner*, 323 U.S. 141, 164, 65 S.Ct. 172, 185, 89 L.Ed. 139 (1944); *Miller v. United States*, 294 U.S. 435, 439, 55 S.Ct. 440, 441–442, 79 L.Ed. 977 (1935); *United States v. Magnolia Petroleum Co.*, 276 U.S. 160, 162–163, 48 S.Ct. 236, 237, 72 L.Ed. 509 (1928).

Further, API believes that the definition of Capital Expenditure (and the equation listed in OOOOa) is unrepresentative of current economic conditions. It was meant to model inflation in the late 1970s and early 1980s, as stated in EPA-FR-1984-Vol 49 No 105, P 22603.

API requests that EPA utilize a ratio of Consumer Price Indices (CPI), as noted in our original comments and as used in the “Civil Monetary Penalty Inflation Adjustment Rule” published in the Federal Register on July 1, 2016 and located at <http://federalregister.gov/a/2016-15411>.

Moving forward, the definition under Subpart OOOOa with our recommended changes will ensure consideration of the definition as we think EPA intended for determination of applicability to modifications.

16. EPA should clarify that coil tubing cleanouts and screenouts are not subject to the provisions in §60.5430a.

API submitted a letter to EPA on June 13, 2016 seeking clarification regarding “screenouts” and “coil tubing cleanouts”. As EPA has previously acknowledged in its September 28, 2012 letter to API, there are necessary processes performed during hydraulic fracturing that are not associated with flowback following hydraulic fracturing and thus not subject to Subpart OOOO. With Subpart OOOOa, EPA must clarify that screenouts and coil tubing clean outs are not subject to the requirements in §60.5375a.

API is proposing to address this issue by adding clarification of the definition of “flowback” §60.5375a as noted below.

Flowback means the process of allowing fluids and entrained solids to flow from a well following a treatment, either in preparation for a subsequent phase of treatment or in preparation for cleanup and returning the well to production. The term flowback also means the fluids and entrained solids that emerge from a well during the flowback process. The flowback period begins when material introduced into the well during the treatment returns to the surface following hydraulic fracturing or refracturing. The flowback period ends when either the well is shut in and permanently disconnected from the flowback equipment or at the startup of production. The flowback period includes the initial flowback stage and the separation flowback stage. Screenouts and coil tubing clean out activities on a well are not considered part of the flowback process.

17. Additional Technical Corrections

A. §60.5393a(b)(3)(ii)

In §60.5393a(b)(3)(ii) there is reference to a paragraph that does not exist. API believes EPA intended for this section to reference (b)(3)(i) instead as follows:

“If you subsequently install a control device or have the ability to route to a process, you are no longer required to comply with paragraph ~~(b)(2)(i)~~ (b)(3)(i) of this section...”

B. §60.5397a(d)(4)

“Your plan must also include the written plan developed for all of the fugitive emission components designated as difficult-to-monitor in accordance with paragraph (g)(3)(i) of this section, and the written plan for fugitive emission components designated as unsafe-to-monitor in accordance with paragraph ~~(g)(3)(ii)~~ (g)(4)(ii) of this section.”

C. Pneumatic Pump Affected Facilities Outside a Natural Gas Processing Plant

As explained in the preamble (81 FR 35850), EPA has decided to finalize pneumatic pump requirements only for well sites, and not for the gathering and boosting, and transmission and storage segments. This decision was reflected in the final rule by limiting the scope of pneumatic pump affected facilities to pumps “located at a well site”, which is a change from the language in the 9/18/2015 proposed rule about pumps “not located at a natural gas processing plant.” However, the phrase “not located at a natural gas processing plant” still remains in several paragraphs in the final rule, including: §§60.5410a(e)(2), (3), (4), and (5). This phrase should be replaced with “at a well site.”

D. Fugitive Emissions - Timeframe for Resurvey

In the introductory paragraph §60.5397a(h)(3), a resurvey following the repair or replacement of a component is required to be conducted as soon possible, but no later than 30 days “after being repaired.” However, §60.5397a(h)(3)(i) requires the resurvey be conducted within 30 days “of finding such fugitive emissions.” To be consistent with the introductory paragraph, §60.5397a(h)(3)(i) should be revised as follows:

§60.5397a(h)(3)(i)

For repairs that cannot be made during the monitoring survey when the fugitive emissions are initially found, the operator may resurvey the repaired fugitive emissions components using either Method 21 or optical gas imaging within 30 days after being repaired ~~of finding such fugitive emissions~~.

E. Table 3 Reference

Table 3 of Subpart OOOOa states that §60.8 applies with the explanation of “Performance testing is required for control devices used on storage vessels, centrifugal compressors and pneumatic pumps.”

API believes that pneumatic pumps should be removed from this listing as control devices for pumps are not subject to performance testing.

F. Pump Closed Vent System Issues

As described in Item II.2. above, the compliance assurance requirements for a closed vent system (CVS) routing emissions from a pneumatic pump to a control device should be aligned to the requirements for storage vessels and not centrifugal and reciprocating compressors as currently finalized. Updating the rule language to reflect this will resolve API's primary issue.

However, the language and references under §60.5410a will require close review and updates as well to ensure the proper intent is reflected. For example, currently, under §60.5410a(e)(2), the rule references complying with the closed vent system requirements under §60.5411a(a) and (d). §60.5411a(a) includes pneumatic pumps in the list of applicable equipment. However, §60.5411a(d) refers to the PE certification requirements that appear to apply to storage vessels in §60.5411a(d)(1).

Separately, in §60.5410a(e)(5), the rule language repeats §60.5410a(e)(2) for control devices not able to achieve 95% control (§60.5393a(4)) but says the closed vent system must comply with §60.5411a(c) and §60.5411a(d). §60.5411a(c) only applies to storage vessels. Therefore, in the current rule, it appears that §60.5410a(e)(5) mistakenly references §60.5411a(c) instead of §60.5411a(a).

Again, API believes that pump closed vent system should be aligned with the requirements for storage vessels and not the requirements for affected compressors. The above inconsistencies in the current rule text are provided here to highlight the need to ensure complete and clear updates occur throughout Subpart OOOOa to reflect this change.

Attachment A

Leak Survey Data (Colorado & Barnett Shale)

2015 Colorado Reg 7 - Production Sites - AIMM Summary (Production sites, Annual Surveys (< 12 TPY))																			
LDAR INSPECTION AREA	COUNTY	TYPE OF FACILITY	Leaking Valves	Total Est. Valve Count per location	Total Leak % for valves (total leaks / total valves inspected area)	Leaking Connectors	Total Est. Connector Count per location	Total Leak % for Connectors (total leaks / total connectors inspected area)	Leaking Flanges	Total Est. Flange Count per location	Total Leak % for flanges (total leaks / total flanges inspected area)	Leaking Pump Seals	Total Pump Seal Count per location	Total Leak % for pumps (total leaks / total pumps inspected area)	Leaking PRD	Total Est. PRD Count per location	Total Leak % for PRDs (total leaks / total PRDs inspected area)	Type of Site	Totals sites inspected
Raton	Las Animas	Single Well Production	75	80	0.19%	41	220	0.038%	13	120	0.022%	0	1	0.0%	4	40	0.020%	Single Well Pads	490
Raton	Las Animas	Compressor Station	1	410	0.02%	14	250	0.400%	1	860	0.008%	0	5	0.00%	0	40	0.000%	Comp Station	14
Durango	La Plata	Single Well Production	214	80	1.76%	159	220	0.475%	16	120	0.088%	0	1	0.0%	2	40	0.033%	Single Well Pads	152
			Component total	Site Count	Leaker Count		Average Comp/site	Average Leakers/site	Average % Comp leaking										
		Single well pad component count	225890		133		461	0.3	0.06%										
		well count raton		490															
		Comp station component count	21910		16		1565	1.1	0.07%										
		staiton count		14															
		Single well pad component count	70072		391		461	2.6	0.56%										
		well count durango		152															
		Total	317872	656	540														
		% Leakers (all site types)	0.17%																

2015	Components	Leakers	% Leaking	Frequency Comments
Colorado	317,876	540	0.17%	Annual
Barnett Shale Production	20,768	159	0.77%	Annual voluntary
Barnett Shale Midstream	77,672	130	0.17%	Annual voluntary
Total	416,316	829	0.20%	

% Leakers	0.20%
-----------	-------

Notes:

Barnett Shale Midstream is based on 28 sites and component count half of Longhorn at (0.5*5548 per site)

Barnett Shale Production is based on 176 sites inspected * 118

Colorado based on actual counts

Message

From: Hilary Moffett [moffetth@api.org]
Sent: 5/25/2017 9:09:29 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Fwd: API letter requesting withdrawal and revisitation of the Oil & Gas CTGs
Attachments: image002.jpg; ATT00001.htm; API Comments on Draft CTGs 12042015.pdf; ATT00002.htm; 2017-05-25 Letter to EPA re CTGs Final.pdf; ATT00003.htm

Hey there,

Howard sent the email below to Sarah today re:CTGs. Hope it's helpful!

Begin forwarded message:

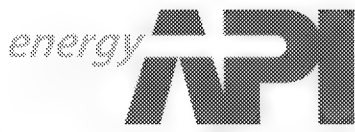
From: "Howard Feldman" <Feldman@api.org>
To: "Dunham, Sarah (Dunham.Sarah@epa.gov)" <Dunham.Sarah@epa.gov>
Subject: API letter requesting withdrawal and revisitation of the Oil & Gas CTGs

Sarah,

Please see the attached letter from API requesting that EPA withdraw and revisit the *Control Techniques Guidelines for the Oil and Natural Gas Industry* (CTGs), released on October 27, 2016. Please let me know if you have any questions.

Be well,
Howard

Howard J. Feldman
Senior Director
Regulatory & Scientific Affairs
1220 L Street, NW
Washington, DC 20005-4070
USA
Telephone 202-682-8340
Fax 202-682-8270
E-mail feldman@api.org



Howard J. Feldman
Senior Director

Regulatory and Scientific Affairs

1220 L Street, NW
Washington, DC 20005-4070
USA
Telephone 202-682-8340
Fax 202-682-8270
Email Feldman@api.org
www.api.org

May 25, 2017

Ms. Sarah Dunham
Acting Assistant Administrator
Office of Air and Radiation
U.S. Environmental Protection Agency
1200 Pennsylvania Ave, NW
Washington, DC 20004
Sent via email: Dunham.sarah@epa.gov

Re: Control Techniques Guidelines for the Oil and Natural Gas Industry

Dear Ms. Dunham:

The American Petroleum Institute (API) requests that EPA withdraw and revisit the *Control Techniques Guidelines for the Oil and Natural Gas Industry* (CTGs), released on October 27, 2016.¹ API represents over 625 oil and natural gas companies, leaders of a technology-driven industry that supplies most of America's energy, supports more than 9.8 million jobs and 8 percent of the U.S. economy, and, since 2000, has invested nearly \$2 trillion in U.S. capital projects to advance all forms of energy, including alternatives. Many of our members will be negatively impacted by the CTGs if adopted by the states in their current form.

EPA's own data show that industry has been reducing methane emissions while at the same time dramatically increasing production. EPA's GHG inventory shows that methane emissions from hydraulically-fractured natural gas wells have fallen nearly 79 percent since 2005 and that total methane emissions from natural gas systems are down 16 percent between 1990 and 2015. Natural gas production from the same period is up 55 percent. Furthermore, EPA data indicate that total US emissions of Volatile Organic Compounds, which the CTGs are ostensibly designed to address, have already decreased by 41 percent since 1990 under the current rules. These trends are indicative of what our industry has achieved; both improving the environment and bolstering our nation's energy security.

Executive Order 13783, Promoting Energy Independence and Economic Growth, highlights the importance of domestic energy production. The Executive Order requires executive departments and agencies to review existing regulations "that potentially burden the development or use of domestically produced energy resources ..." and to "appropriately suspend, revise, or rescind those that unduly burden the development of domestic energy resources..." The 2016 CTGs are clearly an agency action that "burdens the development and use of domestically produced energy resources." They are also

¹ 81 FR 74798

fundamentally flawed because they mirror the requirements of the NSPS OOOOa final rule, which was intended to identify cost-effective controls for new sources, and fail to take into account the increased costs associated with retrofitting existing sources.

Failure to withdraw the CTGs will unfairly burden both states and industry:

- 1) States will be burdened with rewriting the CTGs to make them cost-effective for existing sources, for which the cost-effectiveness is far different than that of new sources, and
- 2) Industry could face cost-ineffective controls in states that fail to significantly modify the CTGs before their adoption.

Furthermore, now that EPA has announced its plans to reconsider the NSPS, any adoption of the CTGs by the states is premature.

Withdrawal of the 2016 CTGs will allow time for EPA to revisit the final CTGs to better address the issues raised by API and others during their development (see our attached comments from 2016 on the proposed CTGs). Until then, these guidelines could burden state and industrial resources and hamper the development of domestically produced energy resources.

Please feel free to contact me if you have questions or need more information.

Sincerely,

Howard J. Feldman

Attachment



Howard J. Feldman

**Senior Director, Regulatory and
Scientific Affairs**

1220 L Street, NW
Washington, DC 20005-4070 USA

202-682-8340
Feldman@api.org
www.api.org

December 4, 2015

The Honorable Gina McCarthy, Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Attention: Docket ID Number EPA-OAR-2015-0216

Submitted to the Federal eRulemaking Portal (www.regulations.gov)

**Re: Environmental Protection Agency's (EPA's) "Release of Draft Control Techniques
Guidelines for the Oil and Natural Gas Industry" at 80 FR 56577 (September 18, 2015)**

Dear Administrator McCarthy:

American Petroleum Institute (API) respectfully submits the attached comments on the Environmental Protection Agency's (EPA's) "Release of Draft Control Techniques Guidelines for the Oil and Natural Gas Industry" at 80 FR 56577 (September 18, 2015).

API represents over 625 oil and natural gas companies, leaders of a technology-driven industry that supplies most of America's energy, supports more than 9.8 million jobs and 8 percent of the U.S. economy, and, since 2000, has invested nearly \$2 trillion in U.S. capital projects to advance all forms of energy, including alternatives. Collectively, they provide most of the nation's energy and many will be directly impacted by the proposed regulations.

The proposed rule is part of the President's "Methane Strategy," which includes multiple regulations and programs from several different agencies, intended to further reduce greenhouse gas emissions from oil and natural gas operations. However, it's important to take into account the recent methane emission trends associated with our industry. Even as U.S. oil and natural gas production has surged, methane emissions have declined significantly. For example, EPA's GHG inventory shows methane emissions from hydraulically-fractured natural gas wells have fallen nearly 79 percent since 2005 and total methane

emissions from natural gas systems are down 11 percent over the same period. According to the Energy Information Agency, these reductions have occurred during a time when total U.S. gas production has increased 44% and, as a result of the increased use of natural gas, carbon dioxide (CO₂) emissions from the energy sector are now near 20-year lows. These trends are indicative of what our industry, when given the freedom to innovate, can achieve to improve the environment as we bolster our nation's energy security.

Each of the proposals (NSPS Subpart OOOOa, Source Determination, Minor Source Tribal NSR), including this one, has potentially significant impacts on our industry's operations and, collectively, they have the potential to hinder our ability to continue providing the energy our nation demands. These cumulative impacts must be considered in conjunction with the impacts of the lowered ozone standards and the pending Bureau of Land Management (BLM) methane rule, which has not yet been proposed and will likely require costly methane controls for some of the very same emission sources. Our organizations have collaborated well in the past and API remains committed to working with EPA and the Administration to identify emission control opportunities that are both cost-effective and, when implemented, don't impact safety or hinder our ability to provide the energy our nation will continue to demand for many years to come. Attached are our comments on the "Release of Draft Control Techniques Guidelines for the Oil and Natural Gas Industry" as well as an executive summary.

As we noted in our comment extension request, we again request that EPA officially re-open the docket for all three rulemakings when the proposed BLM methane rule is published in the Federal Register, to allow additional time for public comment once its interrelationship with the EPA proposed regulations can be fully analyzed. Also, given the limited comment period and minimal extension for these complex proposals, API will continue its review and, if warranted, provide supplemental comments to the agency that we request be included in the appropriate docket to protect the record and considered before finalizing the rules.

We look forward to working with you and your staff as these rules are developed. If you have any questions regarding the content of these comments, please contact Matthew Todd (toddm@api.org, 202-682-8319).

Sincerely,

A handwritten signature in black ink that reads "Howard J. Feldman". The signature is written in a cursive, slightly slanted style.

Howard J. Feldman

Cc: Janet McCabe, EPA
Joe Goffman, EPA
Peter Tsirigotis, EPA
David Cozzie, EPA
Bruce Moore, EPA
Cheryl Vetter, EPA
Chris Stoneman, EPA
Charlene Spells, EPA

Attachment

API Comments on the Draft Control Techniques Guidelines for the Oil and Natural Gas Industry

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Executive Summary

As detailed in our comments, API has numerous concerns with EPA's draft Control Techniques Guideline (CTG) for the Oil and natural gas (O&G) sector. EPA has indicated the desire to finalize the draft CTG in early 2016. We are concerned that this artificial deadline will hinder the agency's ability to adequately address stakeholder comments. This is an unrealistic schedule for issuing a complex guidelines with the concerns identified that cover oil and natural gas industry segments as large and diverse as the onshore production, processing, and transmission and storage segments. EPA has only a few months to review and analyze all the submitted comments, make appropriate revisions, and complete the necessary internal and interagency reviews. As such, EPA should take sufficient time between the close of the comment period and promulgation of the final guidance to adequately consider and address public comments.

Many of API's concerns stem from the broad applicability of EPA's draft Reasonably Available Control Technology (RACT) recommendations and the associated model regulatory text. The one-size-fits-all approach is not appropriate for an industry that varies greatly in the type, size and complexity of operations. EPA has supported its RACT recommendations using economic studies based on "average model facilities" without determining whether the resulting control requirements are appropriate for the entire range of sources included in the source category. The notification, monitoring, recordkeeping, performance testing and reporting requirements are significantly more burdensome than justified for the small and/or temporarily affected facilities.

Listed below are API's primary concerns with the proposed rule. To facilitate review of our comments, API has summarized the concern and provided a recommendation with a reference to the detailed comments where additional supporting discussion has been included.

EPA Must Develop Applicability Thresholds Based On VOC Content To Avoid Requiring Controls That Are Clearly Not Cost Effective And Not RACT For Areas With Low-VOC Gas

Issue – By performing all RACT analyses using a single representative gas composition, EPA has recommended RACT for several fugitive sources that will result in cost effectiveness values considerably higher than EPA considers acceptable in many areas of the U.S. The volatile organic compound (VOC) content of the gas at a site is directly related to the VOC emissions, and thus, the VOC emission reduction when controls are applied. By using a single gas composition for all RACT analyses, EPA did not properly evaluate the VOC cost effectiveness for dry gas, coal bed methane, and other areas that have low-VOC gas. API has performed an analysis that provides recommendations for these thresholds that are technically sound.

Recommendation – Include VOC content applicability thresholds that ensure that areas with low VOC gas are not subject to controls that are not cost effective.

Refer to Section 2.0 for detailed comments on this matter.

Storage Vessel Monitoring Requirements

Issue – The CTG model rule includes onerous continuous parameter monitoring requirements for storage vessels that are considerably more stringent than EPA has proposed for NSPS. The RACT monitoring requirements for storage vessels should not be more stringent than the Best System of

Emission Reduction (BSER) monitoring requirements in the NSPS. Further, EPA did not include the costs of this more stringent monitoring in the impacts assessment for storage vessels.

Recommendation – Make the continuous compliance requirements in the CTG consistent with the proposed requirements in NSPS subpart OOOOa.

Refer to Section 13.8 for detailed comments on this matter.

Fugitives At Well Sites And Compressor Stations

Issue – The draft CTG has a process that requires significant, unnecessary recordkeeping and reporting, and requires surveys of sites that are proven to have little to no detectable leaks. Associated proposed definitions unnecessarily complicate compliance. Additionally, the initial semi-annual frequency is not warranted, and the complex process for determining frequency introduces a burdensome paperwork exercise with no emissions reduction benefit. Closed vent systems (CVS) should not be subject to duplicative requirements. As well, leak detection should not be duplicative with other state or federal enforceable leak detection requirements.

Recommendation – Streamline program to require annual inspections at sites with a compressor or storage vessel. Eliminate the requirement for a site-specific monitoring plan. Existing programs demonstrate that monitoring with an annual frequency results in very low emissions. A companywide monitoring plan will cover all the relevant material; there is no added benefit and significant added cost of developing thousands of site-specific monitoring plans. Revise definitions according to our recommendations. CVS monitoring requirements should be the same as those for fugitive emission components. Finally, exempt sites subject to state, local, or other federally enforceable leak detection programs.

Refer to Section 17.0 for detailed comments on this matter.

EPA Should Delay Finalizing the CTGs Until Six Months After NSPS OOOOa is Finalized

Issue – The CTGs and NSPS OOOO/OOOOa regulate the same type of equipment. Proposing these two actions at the same time resulted with significant inconsistencies that appear to be unintentional and would be illogical if the inconsistencies were intended. Finalizing these two actions at the same time is like to result in inconsistencies in the final actions, as well as duplication of technical errors.

Recommendation – The CTG actions can be delayed without significant impacts. EPA should delay finalizing the CTGs until six months after NSPS OOOOa is finalized.

Refer to Section 1.0 for detailed comments on this matter.

The Emissions Threshold For Controlling Existing Storage Vessels Should Be Higher Than 6 Tpy VOC

Issue – The proposed rule applies the same 6 TPY VOC applicability for new storage vessels to existing storage vessels. Cost of control is higher for existing storage vessels than new storage vessels. EPA's cost estimate underestimates the retrofit costs for an existing storage vessel by ignoring other costs such as purchasing additional land to meet safety buffers for combustion devices. Some existing storage vessels would need to be replaced since they could not handle the additional pressure required for a closed vent system to a control device. These additional considerations make a 6 TPY VOC applicability threshold economically unreasonable for existing tanks.

Solution – Increase the applicability threshold to 10 – 15 TPY VOC to assure that controls are economically feasible.

Refer to Section 13.2 for detailed comments on this matter.

EPA Should Exempt Natural Gas Pneumatic Pumps That Emit At A Rate Lower Than A High Bleed Controller

Issue – EPA is proposing to regulate low emitting sources which would add considerable expense and burden while providing very limited environmental benefit.

Recommendation – EPA should exempt low emitting pumps, i.e. pumps that emit at a rate lower than a high bleed controller. This should include low usage equipment as well. This is consistent with the position taken in subpart OOOO and reinforced under the subpart OOOOa proposal for pneumatic controllers.

Refer to Section 15.4.1 for detailed comments on this matter.

Pneumatic Pump Control Technical Feasibility

Issue – EPA has ignored major technical and safety issues in assuming that pneumatic pumps can be readily connected to existing closed vent systems. There are numerous potential issues with connecting the discharge from a pneumatic pump to an existing control device and closed vent system. These issues can impact both the performance of the pump and result in back pressure on the other sources being controlled.

Recommendation – EPA should provide an exemption from the requirements to control pump emissions where it has been determined to not be technically feasible.

Refer to Sections 15.0 for detailed comments on this matter.

Common Sense Voluntary Reductions And Incentives Will Lead To Increased Early Emission Reductions

Issue – The CTGs should work in concert with the Methane Challenge Voluntary Initiative to seek common sense voluntary reductions and incentives, which will lead to increased early emission reductions. If the Administration wishes to seek additional reductions through a federal framework, the best approach would be a voluntary program without duplicative mandatory regulation. The industry is interested in participating in a well-constructed voluntary program, and has shared options for achieving substantial methane emissions reductions more rapidly than regulations would allow. Industry and EPA's incentives are aligned in desiring to keep methane in the pipeline, to reduce losses and improve product recovery. Industry members strive to evaluate options for cost effective measures to reduce emissions and implement them where they can achieve the greatest reductions. For example, EPA recently reported that total methane emissions from natural gas systems are down 11 percent since 2005 despite significant growth in production. To continue this progress and maximize the results, the industry requires flexible voluntary programs with appropriate incentives, not inflexible regulatory mandates.

Solution – Eliminate duplicative regulation of emissions.

Refer to all sections for detailed comments on this matter.

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Attachments

Attachment A - Technical Review of Western Climate Initiative Proposals to Meter Fuel and Control Gas

GENERAL COMMENTS

1.0 GENERAL PROCEDURAL AND LEGAL COMMENTS

EPA has requirements in the proposed Control Technique Guidelines (CTG) on the same sources regulated in NSPS, Subpart OOOO, including currently proposed amendments, and the proposed NSPS Subpart OOOOa. Writing two separate rules on the same equipment at the same time inevitably cause inconsistencies between the rules, as has been the case in these proposed rules. For instance, continuous parameter monitoring systems (CPMS) are required in the proposed CTGs for control devices, regardless of what type of affected source the emissions are coming from. However, NSPS Subpart OOOOa requires CPMS for emissions coming from centrifugal compressors or pneumatic pumps, but only sensory monitoring and inspection requirements for storage vessels. Discussions with EPA indicate they intended to propose the same compliance assurance in both NSPS Subpart OOOOa and the CTGs.

An existing storage vessel regulated by the CTG may be located right next to a new storage vessel regulated by NSPS, Subpart OOOOa. Requiring stringent CPMS monitoring for the existing storage vessel and visual inspections for the new storage vessel will be very confusing to both the agency inspectors and to the oil & gas industry personnel in trying to comply with the two different sets of requirements. Retrofitting existing equipment is more expensive than the respective increased cost for new equipment, thus you would expect existing equipment to have less stringent requirements than those for new equipment. The opposite occurred in the proposal. EPA widely utilized Best System of Emissions Reduction (BSER) as Reasonably Available Control Technology (RACT), which is not always supportable. However, in all cases BSER should be considered a cap to RACT (see Section 4.1).

For this reason, API requests that EPA delay finalizing the CTGs for at least six months after the NSPS, Subpart OOOOa rule has been finalized. Finalizing the NSPS first allows the requirements to be implemented during the initial equipment construction when it is most effective. Additionally, the existing CTGs are expected to have the most impact on existing equipment in new nonattainment areas designated due to the lowering of the Ozone NAAQS in October 2015. These new nonattainment areas are not expected to be finalized until October 2017. Further, the CTGs require state regulatory actions before these requirements can be implemented. Thus, delaying the finalized CTG until early in 2017 will cause no delays in implementation for these areas. The CTGs are not expected to have significant impact in existing ozone nonattainment areas, since RACT requirements are already in place (i.e. in Denver, CO; Houston, Dallas, and Beaumont, TX; etc.). Where states feel that regulatory changes are needed promptly, they can proceed with those actions based on the NSPS OOOO/OOOOa final rule.

2.0 EPA MUST DEVELOP APPLICABILITY THRESHOLDS BASED ON VOC CONTENT TO AVOID REQUIRING CONTROLS THAT ARE CLEARLY NOT COST EFFECTIVE AND NOT RACT FOR AREAS WITH LOW-VOC GAS

CTGs are required by the CAA to help an area obtain the NAAQS. As such, CTGs cannot consider the benefits of methane reductions in the economic analysis of control options. As proposed, the CTG would require controls in production fields (i.e. coalbed methane or dry gas fields) where little to no VOC reductions would occur. EPA should adopt minimum VOC thresholds for fugitive monitoring, pneumatic pumps, pneumatic controllers and centrifugal

compressors, below which no controls would be required to maintain the cost effectiveness of controls where little or no benefits to NAAQS attainment would occur.

2.1 Cost Effectiveness Is Key Element Of RACT

As stated in Chapter 1 of the draft CTG, EPA defines RACT as “the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.” 44 FR 53761 (September 17, 1979). Historically, the primary measure that EPA has relied upon to assess economic feasibility is the cost of the emission reduction in relation to the level of emission reduction. This “cost-effectiveness” is calculated by dividing the annual costs of the control (including capital recovery along with operating and maintenance costs) by the annual emission reduction.

EPA calculated and showed the cost effectiveness for every option considered. The cost effectiveness values for the fugitive emission sources that EPA recommended as RACT are summarized in Table 2-1.

Table 2-1 EPA VOC Cost Effectiveness Values from CTG

Source	Cost Effectiveness (\$/ton VOC reduced)	
	without savings	with savings
Reciprocating Compressor (Gathering and Boosting Station)	\$1,132	\$298
Reciprocating Compressor (Processing Plant)	\$334	(\$500)
Pneumatic Controller (Well Site)	\$210	(\$627)
Pneumatic Controller (Processing Plant)	\$2,807	\$1,970
Pneumatic Pump (Diaphragm) – Existing Control Device	\$312	\$312
Pneumatic Pump (Piston) – Existing Control Device	\$2,840	\$2,840
Equipment Leaks (Processing Plant)	\$2,844	\$2,010
Fugitive Emissions (Natural Gas Well Site)	\$2,945	\$2,111
Fugitive Emissions (Oil Well Site)	\$12,294	\$11,460
Fugitive Emissions (Gathering and Boosting Station)	\$2,710	\$1,876

It is evident that EPA relied on the cost effectiveness in determining the economic feasibility of controls for the oil and natural gas industry, as every section of the document that discusses the recommended RACT level of control includes a discussion of cost effectiveness. For example, on pages 7-17 and 7-18 of the CTG, EPA states:

“Our rationale for selecting 95 percent control when there is an existing control device is that, as presented in Table 7-4 in section 7.3.1.4 of this chapter, the VOC cost of control when an existing combustion device is available on-site was estimated to be \$312/ton for diaphragm pumps and \$2,850/ton for piston pumps. As presented in Table 7-6 in section 7.3.1.5 of this chapter, the VOC cost of control when an existing VRU is available on-site was estimated to be a cost savings for diaphragm pumps and \$2,007/ton for piston pumps. We consider these costs to be reasonable. Requiring control where there is not an existing control device on-site was not considered to be reasonable available technology, and the costs per ton of VOC reduced are estimated at greater than \$20,000 per ton of VOC reduced for diaphragm pumps and over \$200,000 per ton of VOC reduced for piston pumps.”

This citation also shows that there are levels at which EPA considers the cost effectiveness for VOC to be reasonable, as well as levels that EPA considers to be unreasonable. Historically, EPA has avoided establishing a bright line that separates reasonable versus unreasonable, but past EPA decisions do provide insight into what constitutes reasonable.

The best and most relevant example of EPA's view of a reasonable cost effectiveness level for VOC for the oil and natural gas industry was provided in EPA's final decision related to the 4 tpy alternative emission limitation for storage vessel affected facilities under NSPS subpart OOOO, which was published on September 23, 2013. Following are quotes from the preamble for these final amendments (78 FR 58429).

"... our analysis indicates that the cost of controls for each storage vessel affected facility at a VOC emission rate of 4 tpy is approximately \$5,100 per ton. This cost increases to approximately \$6,900 per ton at an emission rate of 3 tpy, and to approximately \$10,000 per ton at 2 tpy. For comparison, we note that, in a previous NSPS rulemaking [72 FR 64864 (November 16, 2007)], we had concluded that a VOC control option was not cost effective at a cost of \$5,700/ton, which calls into question the cost effectiveness of continuing control of storage vessel affected facilities at an emission rate below 4 tpy."

"In light of the cost-effectiveness, the secondary environmental impacts and the energy impacts, we have concluded that the BSER for reducing VOC emissions from storage vessel affected facilities is not represented by continued control when their sustained uncontrolled emission rates fall below 4 tpy."

There are several key facts worthy of note regarding these statements related to establishing a reasonable cost effectiveness level for RACT for fugitive sources from this industry.

- 1) This decision was specific to the exact industry that is covered by the oil and natural gas CTG.
- 2) The 2007 rulemaking cited as precedent was for fugitive sources analogous to most of the sources covered in the CTG. Specifically, this rulemaking was for "Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry; Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries; Final Rule."
- 3) This threshold was used by EPA to establish a cost effectiveness level considered unreasonable for BSER, which is by definition, more stringent than RACT. Therefore, based on clear precedent summarized above, EPA must consider any cost effectiveness value greater than \$5,700 per ton of VOC reduction to be unreasonable for the purpose of recommending RACT for fugitive source the oil and natural gas industry.

2.2 Cost Effectiveness Of Recommended Fugitive RACT For Oil Wells Is Unreasonable

Given this fact, an obvious first observation is that the cost effectiveness for EPA's recommended RACT for fugitive emissions at oil wells is well above this reasonableness threshold. EPA provided a vague and unsupportable rationale for ignoring the results of their own analysis and recommending level of control estimated to have a cost effectiveness of \$11,460 (considering savings), which is more than double the level previously determined to be unreasonable (see

pages 9-32 and 9-33 of the CTG). Without any consideration of any other factors discussed below, EPA must not finalize a recommendation of any fugitive leak monitoring program as RACT for fugitive emissions at well site. This is discussed in more detail in section 17.0.

2.3 Variation In VOC Content Of Gas Directly Impacts Emission Reductions And Cost Effectiveness

A lower VOC content would reduce the emission reduction achieved by a technology, thus increasing the cost effectiveness. For instance, consider a fugitive emission source where the cost of reducing the emissions is \$10,000 per year. If the VOC emissions reduction for this measure at a site with a gas stream consisting of 20% VOC by weight is 5 tons per year, the cost effectiveness would be \$2,000 per ton. However, applying the same reduction measure to a site where the gas content of the stream is 5% VOC by weight, the VOC emission reduction would be reduced to 1.25 tons per year and the cost effectiveness would increase to \$8,000. Therefore, this difference in VOC content causes the cost effectiveness to be reasonable (by EPA's previous determination) at one site and unreasonable at another.

All the analyses in the CTG were conducted using a single representative gas composition.¹ For oil and natural gas production, this gas composition included 6.8% VOC by volume and 18.3% VOC by weight.

API notes that the documentation for the selection of this representative composition is lacking. In Table 1 of the 2011 EC/R memorandum, gas composition information from a variety of sources was presented. After a review of the available data, the outcome was that only data provided by the Gas Research Institute (GRI) data during the 1995 MACT development was used to calculate the representative gas compositions. Part of the rationale for relying on this GRI data was that a comparison of the GRI data to the other information showed that the GRI data was representative. However, Table 1 and the paragraph that describes this conclusion are severely flawed. For example, the memo states "For production, the 1995 GRI data is well within the ranges of the other data sources, which range from 1.19 to 11.6 percent for VOC by volume." However, the maximum VOC content shown in Table 1 for the other data sources is 5.7 volume percent. Also, Table 1 presents the average VOC content of the other data sources as 3.5 volume percent, as compared to an average of 3.66 volume percent for the GRI data. However, in Table 5 of the EC/R memorandum (which summarizes the GRI data) the sum of the volume percentages of the VOC components is 6.8 percent. Not only does this not match the 3.66 percent provided as the average in Table 1, it is also higher than the maximum VOC content of all the other data sources evaluated. This raises questions about the overall credibility of the analysis leading to EPA's representative composition. It also indicates that EPA may have significantly overestimated VOC emissions when this representative composition was used. In order for the public to have confidence in EPA's overall impacts assessment, EPA must explain these discrepancies in the documentation of the representative analysis and make corrections as necessary.

Despite the significant errors discussed above in EPA's documentation, API believes that the resulting representative gas composition (containing 6.8 percent VOC by volume and

¹ Memorandum to Bruce Moore, U.S. EPA from Heather Brown, EC/R. *Composition of Natural Gas for Use in the Oil and Natural Gas Sector Rulemaking*. July 2011.

18.3 percent VOC by weight) is a reasonable portrayal of an “average” gas composition across the U.S. However, API strongly disagrees with the use of this representative composition to establish a universal RACT recommendation. It is inappropriate to use these general averages for determining whether particular existing oil and natural gas sources should be subject to VOC regulation and what is a cost-effective level of RACT control. The gas compositions in oil and natural gas fields in ozone nonattainment areas and the transport region where these RACT regulations will apply vary widely. In many areas, the VOC content is considerably lower than level in EPA's representative composition.

2.4 Evaluation Of Cost Effectiveness For Sites In EPA's Dataset

As noted above, the average VOC content for the GRI data set chosen by EPA to establish the representative composition was 6.8% by volume. The cost effectiveness calculated by EPA for the recommended RACT level of control for fugitive emissions from gas wells, using this representative composition, was \$2,111 (considering savings). EPA considers this level to be reasonable. However, the VOC content of the gas compositions for the individual sites in the GRI data set ranged from 0.59% to over 28% by volume. This significant difference in gas composition would have a tremendous impact on the emission reductions, and thus, the associated cost effectiveness. Table 2-2 estimates the cost effectiveness values for each of the sites in EPA's GRI data set.

Table 2-2 Estimated Cost Effectiveness for Recommended RACT for Fugitive Emissions at Gas Well Sites at Sites in EPA's Gas Composition Data Set

Site	VOC Content (vol %)	Estimated Cost Effectiveness
Representative Composition	6.82%	\$2,111
GRI1	0.59%	\$24,414
GRI2	2.20%	\$6,547
GRI3	3.93%	\$3,665
GRI4	28.13%	\$512
GRI5	7.15%	\$2,015
GRI6	8.64%	\$1,667
GRI7	7.01%	\$2,055
GRI8	10.09%	\$1,428
GRI9	6.22%	\$2,316
GRI10	2.41%	\$5,977
GRI11	3.21%	\$4,487
GRI12	2.30%	\$6,263

Considering the actual compositions from EPA's own dataset shows that the recommended RACT level for fugitive emissions as gas well sites would result in many gas well sites being subject to controls that have cost effectiveness values above the \$5,700 level which EPA has previously determined to be unreasonable for this industry. In fact, four of the twelve sites in EPA's data set, or 25%, would incur what EPA itself has determined are unreasonable costs when considering the VOC emission reduction. This includes one site that would be required to install controls at a cost effectiveness of over \$24,000 per ton of VOC reduction.

2.5 Evaluation Of Cost Effectiveness With Varying VOC Composition In Gas

In order to demonstrate the overall impact of varying VOC content on cost effectiveness, API conducted a succinct analysis for the fugitive emission sources at oil and natural gas sites covered by the CTG. This analysis was conducted using two different costs. The first analysis was conducted using EPA's estimated annual costs as provided in the CTG without adjustment. However, as discussed throughout this document, API believes EPA's costs in the CTG underestimated the actual impact that will occur in several instances. Therefore, the second analysis uses API's updated cost estimates.

2.5.1 Analysis Using EPA Costs

As noted above, EPA's representative gas composition consisted of 6.8% VOC by volume and 18.3% VOC by weight. The cost effectiveness values that were provided in Table 2-1 were based on emissions calculated using these weight percentages. Cost effectiveness values were calculated at varying concentrations of VOC by assuming a linear relationship between VOC emission reductions and the VOC content. Figure 2-1 through Figure 2-4 show the results of this analysis. For reciprocating compressors at processing plants and pneumatic controllers at well sites, EPA estimated that there would be net savings due to the recovery of natural gas. These sources were not included in this analysis.

Figure 2-1 CTG Cost of Control – Reciprocating compressors at Gathering and Boosting Stations

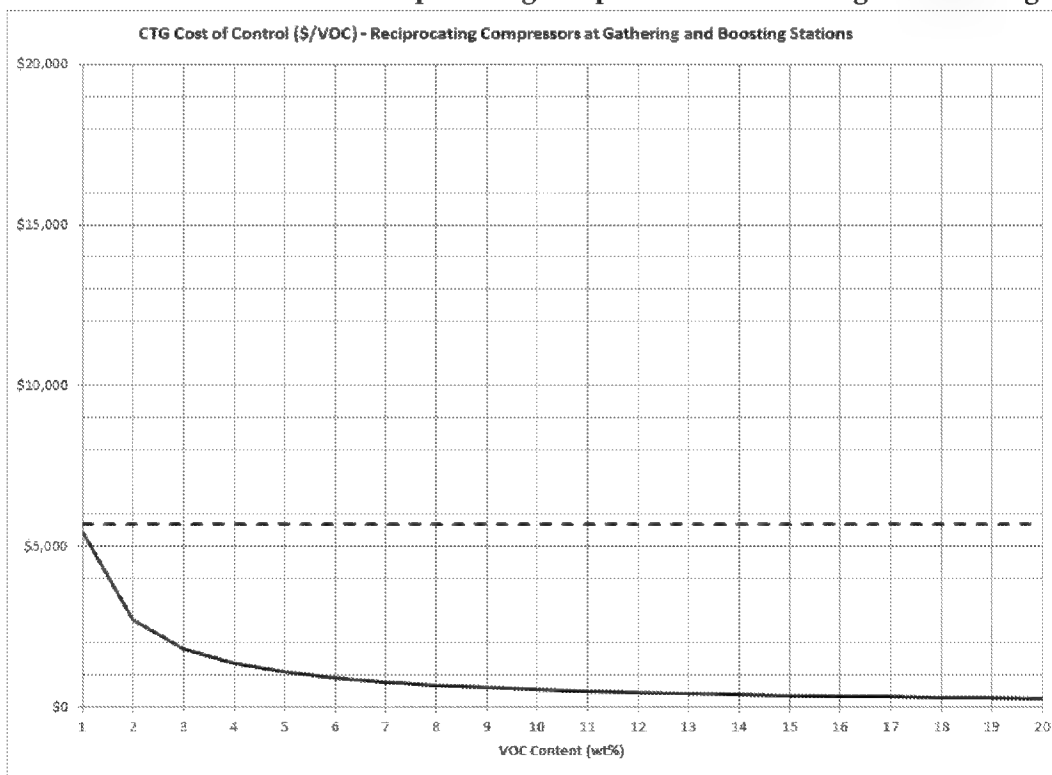


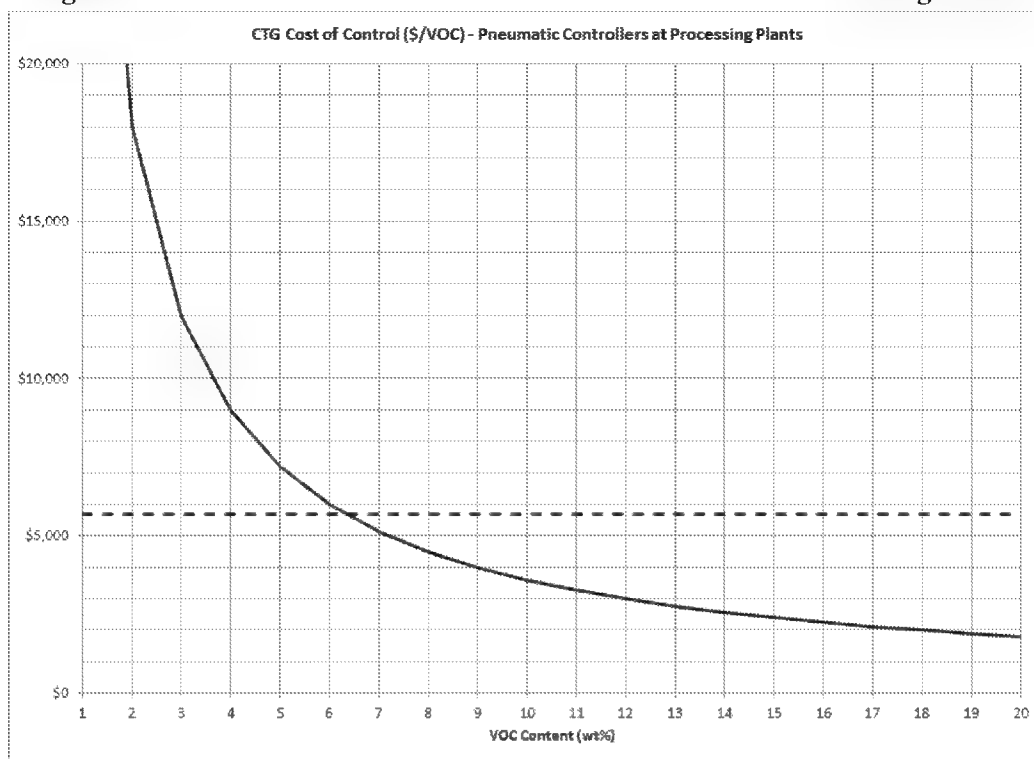
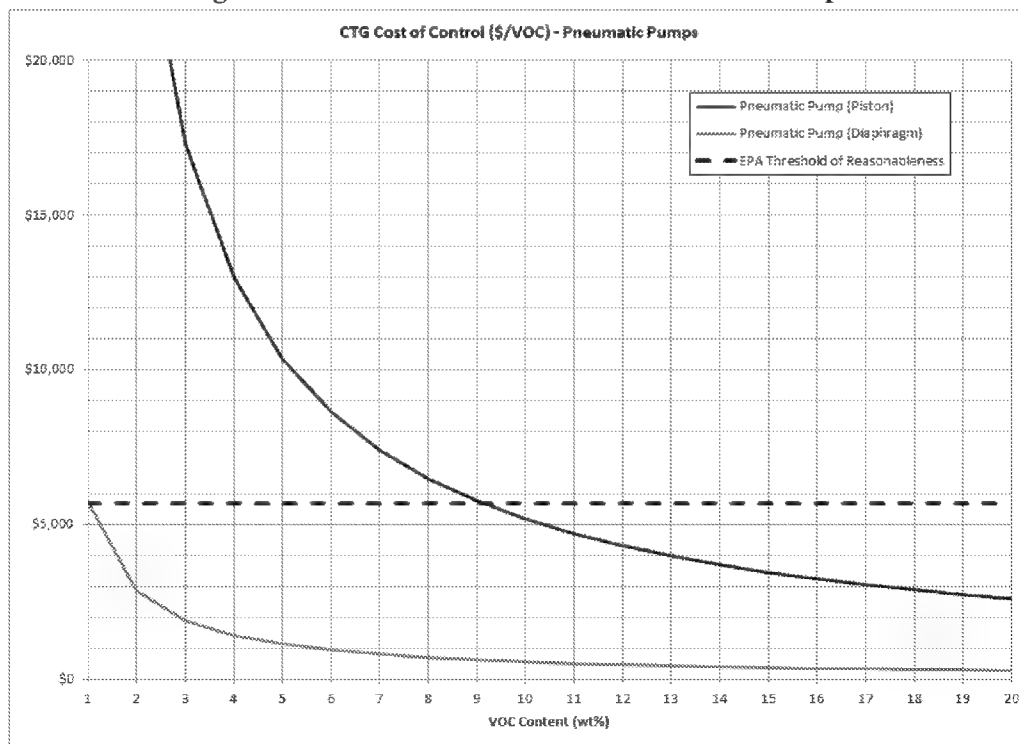
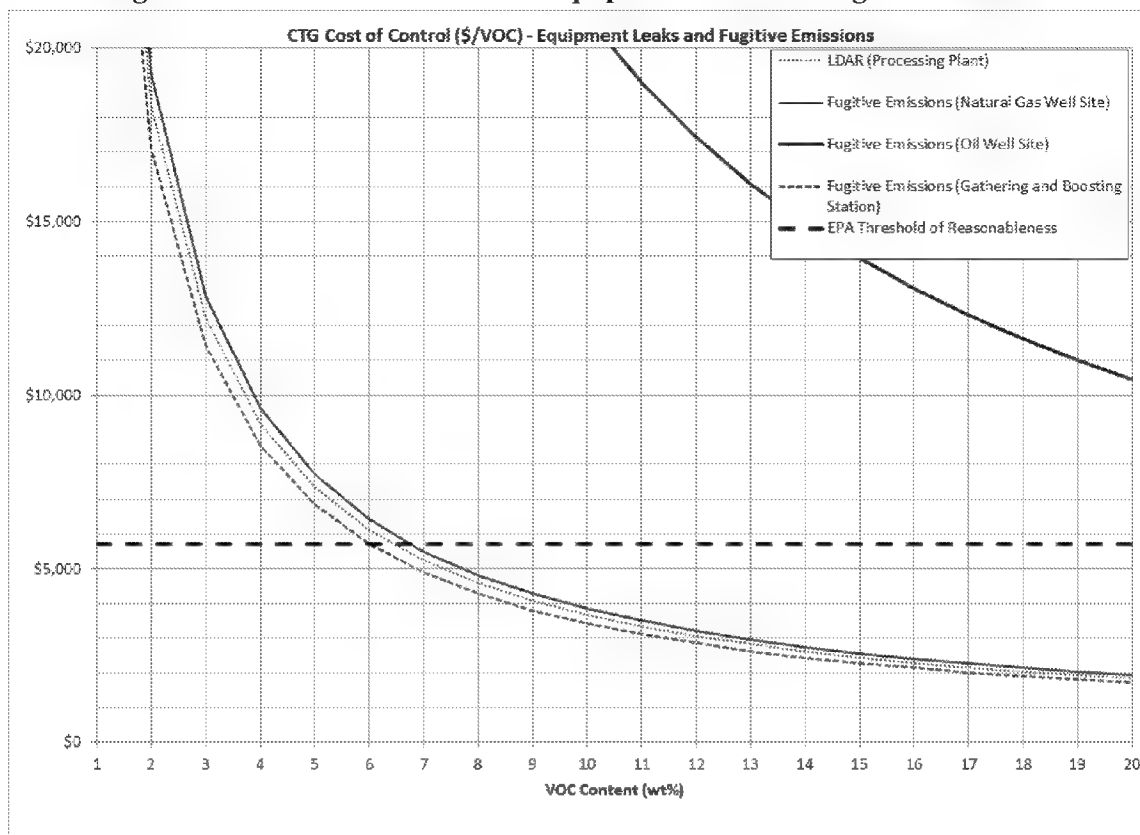
Figure 2-2. CTG Cost of Control – Pneumatic Controllers at Processing Plants**Figure 2-3. CTG Cost of Control – Pneumatic Pumps**

Figure 2-4. CTG Cost of Control – Equipment leaks and Fugitive Emissions

The conclusion of this analysis based on the EPA costs, are as follows:

- For reciprocating compressors at gas processing plants, the cost effectiveness is below \$5,700 for VOC concentrations down to 1% by weight.
- The cost effectiveness for fugitive emissions control at oil well sites is greater than \$5,700 and thus unreasonable at all VOC concentrations.
- For pneumatic controllers and LDAR at gas processing plants, pneumatic piston pumps, and fugitive emissions at natural gas well sites and gathering and boosting stations, the cost effectiveness rises above \$5,700 at VOC concentrations about 6 and 7% by weight.

2.5.2 Analysis Using Updated API Costs

For pneumatic pumps and fugitive emissions from well sites, EPA significantly underestimated the cost of control. API provides detailed analyses of these costs in sections 15.0 and 17.3 for pneumatic pumps and fugitives, respectively. Table 2-3 shows the difference in the annual costs estimated by EPA and the corrected costs based on API members' extensive experience installing and implementing these controls.

Table 2-3. Comparison of EPA and Updated API Cost Estimates

Source	Annual Costs (including savings)	
	EPA	API
Pneumatic Pump (Diaphragm)	net savings	\$4,359
Pneumatic Pump (Piston)	\$201	\$5,024
Fugitive Emissions (Gas Well Sites)	\$1,599	\$7,712
Fugitive Emissions (Oil Well Sites)	\$2,079 ^a	\$8,192 ^a

^a EPA cost is for semi-annual OGI program. API cost is for annual program.

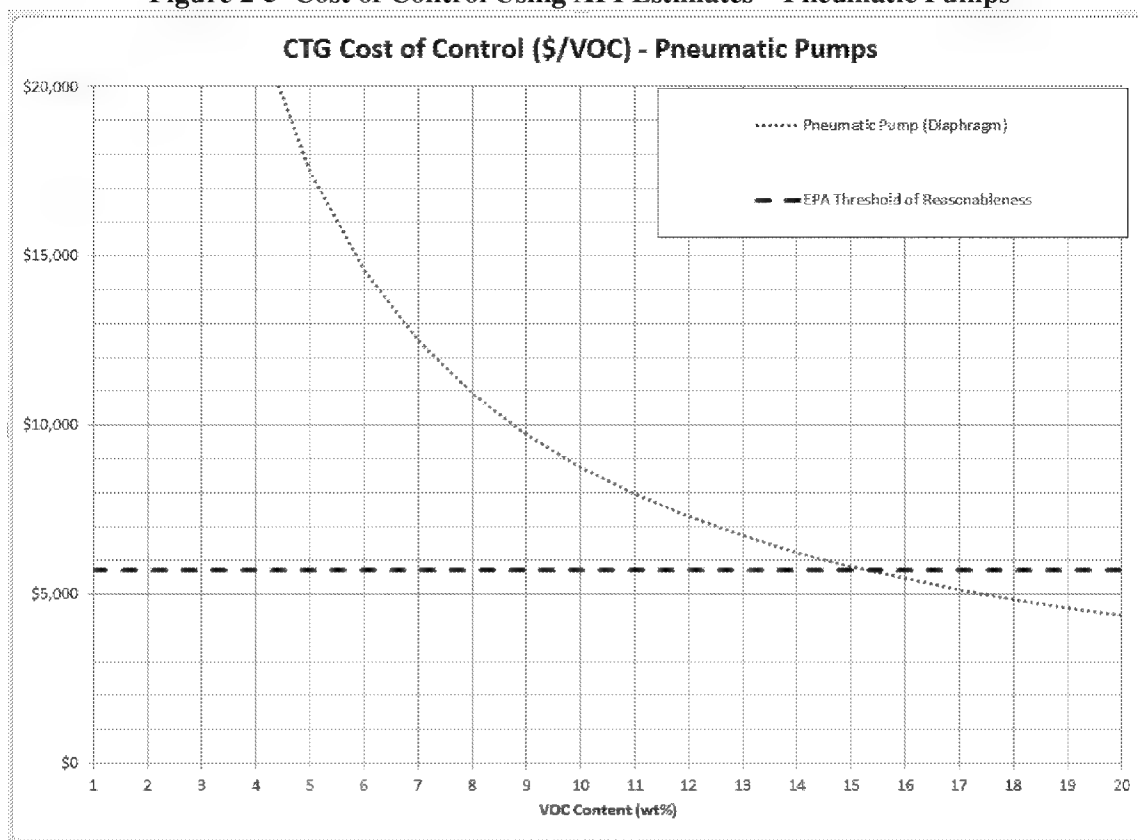
Table 2-4 shows the cost effectiveness calculations using API's updated annual costs. Note that these are based on the VOC emission reductions estimated by EPA using the representative gas composition.

Table 2-4. Comparison of EPA and Updated API Cost Effectiveness Calculations

Source	Cost Effectiveness (\$/ton VOC reduction)	
	EPA	API
Pneumatic Pump (Diaphragm)	net savings	\$4,790
Pneumatic Pump (Piston)	\$2,007	\$50,240
Fugitive Emissions (Natural Gas Well Site)	\$2,111	\$10,147
Fugitive Emissions (Oil Well Site)	\$11,460 ^a	\$45,511 ^a

^a EPA cost is for semi-annual OGI program. API cost is for annual program.

As seen in Table 2-4, the cost effectiveness values for EPA's draft RACT recommendations for fugitive emissions programs at well sites and for pneumatic piston pumps are well above EPA's reasonableness threshold of \$5,700/ton. The diaphragm pneumatic pumps are below this threshold. However, this cost effectiveness is based on the 18.3% by weight VOC content in EPA's representative composition. As discussed above, many areas have gas compositions much lower than this level. Figure 2-5 illustrates the cost effectiveness at different VOC composition levels. As can be seen, the cost effectiveness crosses the \$5,700 reasonableness threshold at around 15% VOC by weight.

Figure 2-5 Cost of Control Using API Estimates – Pneumatic Pumps

2.6 Many Areas That Will Be Impacted By The CTG And Model Rule Are Low VOC Gas Areas

The oil and natural gas produced in the US varies considerably. This can range from very heavy, thick crude oil (a.k.a. black oil or dead oil) that has no associated natural gas, to light hydrocarbon liquids (a.k.a. condensate) that co-produce VOC-laden gas, to gas that is almost 100% methane with no associated liquids. Each type of formation may have some similarities, but still can have wide variation. Some tight sands behave like sand stone and can produce significant amounts of heavier hydrocarbons. Shale fields run the gamut from wells that produce nearly 100% methane to wells that produce significant quantities of hydrocarbons that are liquid at stock tank conditions. The definitions of the various types of reservoirs are very broad and the defining characteristics have little to do with the reservoir's potential to emit VOC or HAP.

As evidenced by the brief discussion above, areas that produce low VOC gases are likely to be adversely and unfairly impacted by high costs with little VOC emission reduction. However, this is not just a theoretical exercise, as there are numerous areas that will be impacted by EPA's RACT recommendation and model rule and the resulting SIPs where low-VOC gases are prevalent.

There are several active oil and natural gas production areas that are in the ozone transport region or ozone nonattainment areas (or in areas likely to be nonattainment under the new 70 ppbv ozone NAAQS) where the VOC content is very low. These include, but are not limited to the Marcellus, New Albany, Barnett, and Mancos areas. It is estimate that there are over 23,000

wells in these low-VOC areas.² While not all of these areas will be in moderate or above ozone nonattainment areas where RACT is required, States may choose to voluntarily implement these recommended RACT requirements to address the VOC from oil and natural gas operations.

In addition, coal bed methane (CBM) typically is produced at low pressures and contains very high percentage of methane (often as high as 97% by volume) and almost no hydrocarbons heavier than ethane. Coal has classically been thought of as a “cap rock”, not a reservoir rock. This means that the pore volume (i.e., porosity) is on the order of 0.25%. This very low porosity demonstrates that the only gases that can be stored in the coalbed must be of a size that allows them to be adsorbed to the surface of the coal. Coal has a high affinity to accept CO₂ onto its absorption sites, and a slightly smaller affinity for methane. Heavier hydrocarbons do not “fit” on the adsorption sites (the traces of heavier hydrocarbons that are sometimes reported in CBM fields have come from the very small pore volume, not desorption). Consequently, CBM fields tend to have zero or near zero VOC emissions. There are also several CBM areas that are in the transport region or potential ozone nonattainment areas including, but not limited to, the Black Water, Appalachian, and Uinta areas. It is estimated that there are over 10,000 CBM wells in these areas.³

Therefore, a large number of low-VOC sites could be impacted by the RACT rules resulting from this CTG. These sites will be subject to requirements that clearly have costs at a level that EPA has considered unreasonable in relation to the associated VOC emission reductions. Therefore, EPA must include VOC applicability thresholds in the RACT recommendations and model RACT rules to avoid these high cost impacts with very minimal environmental benefit.

2.7 There Is Precedent For VOC Applicability Thresholds In Ctgs And Federal Regulations

There are precedents in many NSPS and other federal regulations where EPA has recognized that the composition of the gas impacts the level of emissions, and thus has included applicability thresholds. This is particularly prevalent for regulations that focus on fugitive emissions, such as the 1983 CTG for fugitive monitoring in Gas Processing⁴ (which stated 1% VOC by weight; see section 16.2.8), and multiple NSPS subparts. For example, NSPS subparts VV and VVa only cover equipment “in VOC service,” which is defined as equipment that “contains or contacts a process fluid that is at least 10 percent VOC by weight.” In other words, equipment components that contact a process fluid with less than 10 weight percent VOC are exempt from the leak detection and repair requirements.

² Marcellus - <http://stateimpact.npr.org/pennsylvania/drilling/>

New Albany - <http://www.in.gov/dnr/dnroil/files/og-NASWellsByStatus1990to2013.pdf>

Barnett - http://www.tceq.state.tx.us/assets/public/implementation/barnett_shale/bs_images/bsOilGasWells.png

Mancos - https://www.env.nm.gov/aqb/4C/Documents/Mancosshale_May30_2012.pdf

³ Black Warrior - <http://www.gsa.state.al.us/gsa/cbm/Coalbed%20Methane%20Research.htm>

Appalachian - http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_007916.pdf

Uinta - http://www.blm.gov/style/medialib/blm/ut/vernal_fo.Par.57849.File.dat/GCW%20Cums%20TSD%2003-22-12%20final.pdf

⁴ http://www3.epa.gov/ozonepollution/SIPToolkit/ctg_act/198312_voc_epa450_3-83-007_leaks_naturalgas_processing.pdf

2.8 Conclusion: EPA Must Include Applicability Thresholds Based On VOC Content In The Gas

The discussion above clearly proves the need for EPA to include applicability thresholds based on VOC content in the gas for the RACT recommendations and model rule for several fugitive emission sources where it is proven that the cost effectiveness levels are at unacceptable levels as VOC content decreases.

Specifically, API recommends that EPA exempt the following emission sources from RACT requirements in the CTG if the gas composition at the site exceeds an appropriate threshold. Using EPA's proposed cost estimates that threshold is 7.0 % VOC by weight or less:

- Pneumatic controllers at gas processing plants,
- LDAR at gas processing plants,
- Pneumatic piston pumps, and
- Fugitive emissions at natural gas well sites and gathering and boosting stations.

Considering API's more accurate cost estimates, requirements for fugitive VOC emissions at all well sites and pneumatic piston pumps are not cost effective even using EPA's representative composition. Further, the cost effectiveness for the requirements for pneumatic diaphragm pumps becomes reasonable at 15 % VOC by weight.

3.0 EPA SHOULD APPLY LOW PRODUCTION EXEMPTION TO ALL EMISSION SOURCES AND THIS EXEMPTION SHOULD APPLY WHENEVER THE AVERAGE PRODUCTION OF A WELL SITE FALLS BELOW THE 15 BOE/DAY LEVEL

In Section 9.1 of the CTG, EPA states: "For purposes of this guideline, the emissions and programs to control emissions discussed herein would apply to the collection of fugitive emissions components at a well site with an average production of greater than 15 barrels of oil equivalent per well per day (15 boe/day), and the collection of fugitive emissions components at compressor stations in the production segment. It is our understanding that fugitive emissions at a well site with low production wells are inherently low and that many well sites are owned and operated by small businesses. We are concerned about the burden of the fugitive emissions recommendation on small businesses, in particular where there is little emission reduction to be achieved."

This exemption is specific to the fugitive emission requirements at well sites. However, the reasons stated by EPA are applicable to all emission sources at low-production well sites. Therefore EPA should universally apply this exemption and totally exempt all sources at well sites with average production of less than 15 boe/day from all requirements.

Furthermore, this exemption should apply throughout the life of the well site. In other words, whenever the average production of a well site falls below 15 barrel equivalents it should no longer be subject to any RACT requirements.

4.0 THE CTG DOCUMENT DOES NOT ADEQUATELY COVER ALL THE DATA REQUIRED BY THE CLEAN AIR ACT, WHICH INCLUDE RETROFIT COSTS, OPERATIONAL COSTS, ENERGY REQUIREMENTS, ENVIRONMENTAL IMPACTS, AND FUEL COSTS.

Clean Air Act Section 108(b)(1) outlines the information that EPA is required to provide to states and other air pollution agencies related to air pollution control techniques for criteria pollutants associated with NAAQS. Specifically, this paragraph states that EPA “shall include data relating to the cost of installation and operation, energy requirements, emission reduction benefits, and environmental impact of the emission control technology. Such information shall include such data as are available on available technology and alternative methods of prevention and control of air pollution. Such information shall also include data on alternative fuels, processes, and operating methods which will result in elimination or significant reduction of emissions.” In this CTG, EPA failed to comply with this requirement. Not only did lead to insufficient information being provided for states, it led EPA to recommend RACT requirements (which are reflected in the model rule) that are not based on accurate information. Throughout these comments, API points out examples of the inadequacies in EPA's cost estimates.

4.1 The CTGS Must Take Into Consideration The Impacts And Costs Of Retrofitting Existing Sources

EPA is not taking into account the significant cost differences between applying a control in a new and existing operations. Applying BSER controls to existing source controls are more expensive (not RACT) for several reasons. As economically feasible is part of the definition of RACT, these costs must be considered.

- Existing controls may not be adequate for CTG compliance. There will be situations where the control device itself is not designed adequately or does not have the necessary uptime and efficiency, or is designed for testing and monitoring. Furthermore the existing control device may not have the monitoring systems required by the CTG. The control device may have been installed for state permitting or regulatory compliance, or maintaining emissions below a threshold. In these situations the existing control device and monitoring systems would need upgrade, potentially significant upgrade. Those costs must be considered by USEPA in their evaluation.
- There may be permitting implications if a flare is the chosen control device.
- New land may be required to add control devices to existing sites.
- Existing vapor recover units, compressors, and storage vessels may require early retirement.
- Existing controls may have remaining useful life and will require early retirement.

4.2 EPA Should Consider The Cost Of Disturbance Of Land To Install New Controls

One of the elements that EPA did not consider in estimating the impacts of these RACT requirements on existing sources is the cost of disturbance of land to install new controls. Industry standards and insurance typically require that combustion devices must be placed 50-150 feet from equipment containing hydrocarbon to avoid explosions from thermal radiation. Due to the spacing requirement for control devices, adding a control device may require additional surface disturbance beyond the existing pad location. There are numerous repercussions of additional land disturbance including:

- Additional land may have to be purchased. EPA has not included in the cost estimate for the control devices the cost of the additional land that would be required.

- Wetlands may be further impacted requiring additional wetland mitigation and/or a Corps 404 Permit under the Clean Water Act. EPA has not considered the additional cost for wetland mitigation and permitting.
- The additional land needed may encroach on endangered species habitat and may not be allowed to be developed or require additional mitigation. EPA has not considered the impacts of this situation.
- Federal land will potentially require NEPA analysis for the additional disturbance. EPA has not considered the great cost and effort of a NEPA analysis for additional disturbance on Federal land.
- National Historic Preservation Act review may be required for the additional disturbance. EPA has not considered the impact under the NHPA.

4.3 EPA Should Not Require The Same Controls As In The NSPS, Which Is For New Sources

On September 18, 2015, EPA proposed NSPS Subpart OOOOa, which covers all the same emission sources addressed in the draft CTG but for new sources. The Clean Air Act has requirements for evaluating the stringency of controls for the different programs.

Control Technique Guidelines define Reasonably Available Control Technologies (RACT) as the following:

- “RACT emissions limitations are the lowest emissions limitations that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.”⁵
- While EPA has not set a financial threshold for RACT, per a 2006 EPA memo⁶, generally the VOC cost threshold has been approximately \$2000 per ton in 1980 dollars (\$5,784.37 in 2015 dollars⁷).

New Source Performance Standards outline the Best System of Emissions Reduction (BSER)

- “For purposes of this section, if in the judgment of the Administrator, it is not feasible to prescribe or enforce a standard of performance, he may instead promulgate a design, equipment, work practice, or operational standard, or combination thereof, which reflects the best technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated. (CAA – U.S. Code Title 42 Chapter 85 Subchapter I Part A 7411 (h)(1).”

Despite this difference in statutory authority, in this package of rulemakings, EPA has determined in almost every case that the exact same controls are appropriate for new sources and existing

⁵ http://www3.epa.gov/ttn/atw/ctg_act.html

⁶ <http://www3.epa.gov/ttn/caaa/t1/memoranda/ractqanda.pdf>

⁷ http://www.bls.gov/data/inflation_calculator.htm

sources in non-attainment areas. In other words, EPA determined that BSER and RACT are equal. In a few cases (alternative emission limitation for storage vessels, continuous monitoring provisions for storage vessels), the RACT requirements in the model rule in the appendix to the CTG are more stringent than the NSPS. EPA cannot propose the same requirements for BSER and RACT without an explanation. EPA must re-evaluate RACT based on the appropriate criteria and re-issue the draft CTG based on these appropriately conducted analyses.

5.0 EPA SHOULD REITERATE THAT EACH STATE IS ABLE TO ADOPT OTHER EXISTING REGULATIONS IN LIEU OF CTGS AS RACT.

EPA has defined RACT as “the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility” (44 FR 53762; September 17, 1979). Since the cost effectiveness tabulations are based upon a nationwide average, economic feasibility⁸ may vary from state to state. Thus, while EPA considers CTGs to constitute “presumptive” RACT, states are not required to adopt the control measures specified in CTGS as RACT. CTGs may not meet the definition of RACT⁹ in terms of being reasonably available for a specific source or source category for a particular area.

Additionally a RACT analysis might conclude different control measures should include the application of a VOC threshold for the implementation within a particular area based upon the sources in that particular area.

According to 2006 Guidance from Harnett¹⁰, in response to a question regarding how to address requirements as part of the SIP where a State determination that sources subject to Federal rules meet RACT by compliance with those requirements:

To rely on federal rules to meet the RACT requirement, the State must incorporate these requirements into the SIP. For example, a State could incorporate by reference the Federal requirement or could submit a permit that includes this provision as a SIP revision.

The same guidance points out that “a State may rely on control obligations required by federally enforceable permits by submitting the relevant portions of these permits (i.e., the portions establishing the VOC and NOx obligations) as SIP revisions along with a demonstration that such controls are RACT.” And “a RACT analysis needs to be done for all CTG sources and all major non-CTG sources. While the CTGs and ACTs provide a starting point for such an analysis, RACT can change over time as new technology becomes available or the cost of existing technology adjusts. States are encouraged to use the latest information available in making RACT determinations, whether that information is in CTGs, ACTs, other guidance that is available or through information submitted during the public review process.”

⁸ 1994 guidance indicates that cost effectiveness should be within \$160 to \$1300 per ton.

⁹ Note that API does not agree with this presumption, as there is no basis under the law for the suggestion that EPA's recommendations carry any greater weight than individual state determinations.

¹⁰ <http://www3.epa.gov/ttn/caaa/t1/memoranda/ractqanda.pdf>

While a CTG is the starting point for a RACT analysis for a source category covered by a CTG, the analysis must still be conducted to identify “the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.” EPA should reiterate this obligation and that it is wholly acceptable that such an analysis may conclude that existing regulations satisfy the RACT obligations for a source category and the CTG need not be adopted as written.

An example of where this is especially true relates to monitoring, inspection and performance testing requirements. States typically have their own policies and procedures on these requirements. It is less burdensome for state agency personnel and the regulated community to use the state compliance assurance requirements in lieu of the EPA style requirements included in the model rule. If EPA includes compliance assurance requirements in the model rule, EPA should specifically state in the preamble that state may utilize their own compliance assurance provisions in lieu of those in the model rule.

6.0 API REQUESTS THAT THE CONTROL TECHNIQUE GUIDELINES FOR THE OIL AND NATURAL GAS INDUSTRY AND EPA'S SIP PLANNING GUIDANCE ENCOURAGE STATES NOT TO REQUIRE EMISSIONS OFFSETS FOR MINOR OIL AND NATURAL GAS EMISSIONS SOURCES.

States with marginal non-attainment areas and above are subject to the non-attainment new source review requirements including offsets for increases of emissions for new or modified major stationary sources. While the Clean Air Act only requires emissions offsets in the Non-attainment New Source Review (NNSR) program for major sources in non-attainment areas, some States additionally require offsets for minor sources (Wyoming – WYDEQ). Additionally, some State statutes do not distinguish between major sources and minor sources in their Prevention of Significant Deterioration (PSD) programs applicable to attainment areas with respect to the requirement that new or modified facility does “*not cause or contribute to an exceedance of a NAAQS.*” (e.g. Wyoming WAQSR Chapter 6, Section 2(c)(ii)), which can result in air quality offset requirements for minor sources. In rural areas of the US, where most oil and natural gas development occurs, there are limited opportunities to acquire emission or air quality offsets. In the event emissions offsets are required, new oil and natural gas production could be significantly restricted.

With Control Technique Guidelines and NSPS OOOO/OOOOa, the value of additional VOC offsets through beyond-the-requirements control of minor sources is even further diminished. Additionally, virtually no offset opportunities exist for oil and natural gas in rural areas. Thus, API requests that the CTGs and EPA's SIP planning guidance specifically encourage states not to require emissions or air quality offsets for minor oil and natural gas emissions sources.

7.0 STATES SHOULD BE ALLOWED TO DETERMINE WHAT CTGS SHOULD BE APPLIED

The precursors to ozone formation are both VOCs and NO_x. The net impact of ozone formation depends on the NO_x, VOCs, and meteorology for a particular location. As noted in EPA's

Integrated Science Assessment for Ozone^[1], “Duncan et. al 2010^[2] found that O₃ [ozone] formation over most of the U.S. became more sensitive to NO_x over most of the U.S. from 2005 to 2007 largely because of decreases in NO_x emissions.” Further control of VOC in many areas may result in no discernible ozone reduction. Moreover, control of emissions with combustion devices results in increases of NO_x. The ozone formation for most of the U.S. is NO_x limited; therefore, in most areas of the country adding more NO_x could result in increased ozone formation and implementing a CTG RACT rule would be counterproductive. Analysis for particular areas could find that there was no benefit to ozone reductions with application of CTGs, or in the worst case, such an analysis may find that the net result of controlling VOC emissions with combustion creates *more* ozone since it would add NO_x emissions. EPA should allow the states to determine whether incorporation of the CTGs into RACT SIPs is beneficial through analysis of the air quality for the particular area.

8.0 THE FINAL CTG SHOULD INCLUDE A FEDERAL FRAMEWORK FOR ENCOURAGING VOLUNTARY METHANE REDUCTIONS FROM EXISTING OIL AND NATURAL GAS SOURCES

The incentive to generate voluntary methane reductions from existing oil and natural gas sources will be significantly undercut if EPA adopts CTGs that apply to all existing oil and natural gas sources, including those highly-controlled sources that have voluntarily implemented “best management practices” (BMP) under the Methane Challenge Program. In particular, the adoption of CTGs applicable to the entire source category will trigger a requirement for states to establish RACT standards for all sources, including the BMP-controlled sources, which are located in ozone nonattainment areas and ozone transport areas classified as moderate or higher. The imposition having to change from the BMPs to the RACT requirements once they are finalized will deter many companies from trying to implement the BMPs. Furthermore, once the RACT requirements for the CTGs are included in a state’s regulations and State Implementation Plan (SIP), companies will be unable to get offset credits from reduction implemented under a BMP that they make legally and practically enforceable.¹¹

To correct this problem, EPA should establish in the final CTGs a federal framework that encourages, to the maximum extent permissible under the CAA, voluntary methane reductions from existing oil and natural gas sources. Such methane reductions are necessary to help ensure

^[1] US EPA. 2013a. "Integrated Science Assessment for Ozone and Related Photochemical Oxidants (Final)." EPA/600/R-10/076F.

^[2] Duncan, BN; Yoshida, Y; Olson, JR; Sillman, S; Martin, RV; Lamsal, L; Hu, Y; Pickering, KE; Retscher, C; Allen, DJ. (2010). Application of OMI observations to a space-based indicator of NO_x and VOC controls on surface ozone formation. Atmos Environ 44: 2213-2223. <http://dx.doi.org/10.1016/j.atmosenv.2010.03.010>

¹¹ The CAA establishes specific rules for the generation of offsets. One key requirement is that the emission reductions must not otherwise be required by some other CAA program or regulation. See Section 173 (c)(2) of the CAA (providing that “Emission reductions otherwise required by this chapter shall not be creditable as emissions reductions for purposes of any such offset requirement”). EPA has also established federal guidance providing that to the extent that the emission reductions are in fact required by CAA, those reductions are not “surplus” and consequently may not be used to generate offsets. See Emissions Trading Policy Statement; General Principles for Creation, Banking and Use of Emission Reduction Credits, 51 Fed. Reg. 43,814, (December 4, 1986).

the achievement of the Administration's goal to cut methane emissions from the oil and natural gas sector by 40-45 percent from 2012 levels by 2025.

This important policy objective can easily be accomplished by narrowing the scope of the oil and natural gas sector subject to the CTGs as well as setting the control thresholds for sources such as storage vessels at a higher level than the NSPS OOOOa levels. Also the final CTGs should include language that excludes sources that have established legally and practically enforceable limits for already implemented BMPs under the Methane Challenge Program from implementing the CTG requirements. Sources that are controlled and following the BMPs for the Methane Challenge that have made them legally and practically enforceable could use the reductions as offsets since they are not under the CTGs. Allowing companies to be exempt from the CTGs that implement the BMPs and make them legally and practically enforceable to get offsets will encourage companies to make reductions earlier than when they would be required for newly designated ozone nonattainment areas under the 2015 ozone NAAQS. Final designations will be issued by October 26, 2017 and the RACT SIPs will be due by October 26, 2019 that would need to include the CTGs. Any reductions made after the designations years of 2013-2015 or 2014-2016 could still be used for Reasonable Further Progress demonstrations and used as offsets as long as they are done before the RACT regulations are put in place. If the CTG fails to provide a source category exclusion for those sources that have voluntarily implemented BMPs for reducing their methane and VOC emissions, the only option available to generate offsets will be for existing sources to achieve VOC reductions that exceed the RACT control levels specified in the CTGs. Under this "RACT-Plus" approach, sources could generate offsets for only a small increment of the total VOC reductions that the company could achieve by the implementation of BMPs under the Methane Challenge Program. This small increment would be those VOC reductions that are in excess of the VOC reduction levels mandated by the state in the VOC RACT standards applicable to affected oil and natural gas sources.

Only a small increment of the total VOC reductions achieved by companies under the Methane Challenge Program would be available to generate a correspondingly small amount of offsets once the CTGs are incorporated into the state regulations. This small amount of offsets may not be a sufficient incentive to encourage robust participation by many companies to achieve substantial methane emission reductions under the Methane Challenge Program above any VOC RACT standard. Furthermore, the states could impose stricter requirements for RACT in their regulations and RACT SIPs beyond the CTGs leaving no further reductions available. The window to do reductions that would still be creditable by making the BMPs legally and practically enforceable but before CTGs are incorporated in the regulations and the RACT SIPs will only be from 2017-2019 giving companies a very small window to acquire offsets.

9.0 THE CONTROL DEVICE TESTING AND MONITORING COMPLIANCE ASSURANCE REQUIREMENTS ARE NOT APPROPRIATE

9.1 Oil and Natural Gas Production Sites Are Unique From Traditional Stationary Sources

The sources that will be subject to RACT rules based on the recommendations in the CTG are unique from typical stationary sources in that they are small sites, located in remote areas, dispersed from each other (often requiring an hour or more travel time between regulated sites), and typically unmanned. These sites lack the infrastructure of power, communication or even a simply found geographic address that are required to make many of the historic compliance assurance measures function. Because EPA has "force fit" the testing, monitoring, and other compliance assurance requirements designed for traditional stationary sources to the oil and natural gas industry, the proposed testing and monitoring requirements result in unnecessary

burden without a commensurate benefit. Sections 9.1.1 through 9.1.3 briefly describe some of the unique aspects of the oil and natural gas industry. Sections 9.2 and 9.3 provide specific examples of the inappropriateness of these requirements and provide recommendations that will ensure compliance and environmental benefit without creating unnecessary and costly burdens on the industry.

9.1.1 Oil and natural gas Production Operating Conditions Are Not Steady State

Oil and natural gas operations are unique due to the dependence on the naturally occurring underground nature of the resource being harvested. This section summarizes some of those unique characteristics and their impact on emission control devices (primarily combustion control devices).

Unlike other industrial sectors where operating conditions are defined in the engineering stage, the oil and natural gas production sector does not operate at steady state conditions. Equipment design must be tailored to the conditions and fluid compositions supplied by the reservoir. Oil and natural gas is located thousands of feet below the surface and must flow in two or three phases to the surface. Ideally, this flow would occur at a relatively steady rate at a velocity fast enough to suspend small droplets of produced water and liquid hydrocarbons during the vertical ascent to the surface. The mixture is then separated in the two or three phase separator with steady pulses of produced water sent from the bottom of the separator to its storage vessel, hydrocarbon liquids off the middle to its storage vessel, and natural gas off the top of the separator to the gathering system. This may occur at times, but it is not typical.

As production declines and velocity in a vertical pipe decrease, the small droplets start to move slower than the gas combine into larger and larger droplets. These eventually form slugs of liquid that must be pushed up the pipe. The increasing back-pressure on the reservoir reduces in-flow, production, and hence velocity. As backpressure on the reservoir increases and the velocity continues to decrease, the liquid column in the wellbore can stop the gas flow until the gas pressure below the slug increases sufficiently to push the liquid to the surface. The management of these wellbore liquids is a major concern throughout the life of a well that mandates changes in both down hole and surface equipment. The impact to environmental emissions controls is that flow to the control device varies from essentially zero to high flow rates and quickly back to zero rapidly and often. This highly variable, non-steady state flow mandates equipment to be sized much larger than ideal steady state conditions would dictate and makes flow measurement infeasible.

9.1.2 Production Separator Operation

The purpose of the two or three-phase production separator is to separate the two or three-phase flow from the well to make sure that only natural gas goes to the gathering system and only liquid hydrocarbons and produced water are sent to their respective storage vessels. Separators are sized to give sufficient "residence time" to allow the separation of phases to take place. Since the actual mix of gas, oil (or condensate), and produced water varies randomly with time, it is impossible to predict when or how often a given control-action will occur.

The flow into the separator is made up of the fluids that the reservoir produces at any given moment, as modified by the transport of those fluids to the surface. The liquid levels in the separator are maintained by valves (often called dump valves) on the separator outlets to the oil/condensate storage vessel and the produced water storage vessel (although liquid collection systems are sometimes used in lieu of a storage vessel). The dump valves are sized to handle the highest flow rate of liquid that the separator can be expected to receive. Because of the highly

variable flow conditions, separators normally provide flow to storage vessels in short spurts, typically lasting only seconds, to maintain the required liquid levels and dump cycles may be separated by many minutes, hours, or even days.

9.1.3 Closed Vent System Flow Rate

Gas flow from the storage vessel into the closed vent system (CVS) predominantly results from flashing vapors (resulting from the spurts of liquids from the separator) and dwarfs the working and standing/breathing emissions typical from storage vessels (that occur between spurts). However, the CVS and control device must be sized sufficiently to handle the peak vapor volumes expected. Measuring the flow in CVS causes two distinct problematic issues. The normal volumes from working and standing losses and the flashing of separator liquids are at very low velocities that are hard to measure with current measurement technology (see "Technical Review of Western Climate Initiative Proposals to Meter Fuel and Control Gas", Attachment A). Measuring the flow of flash vapors and peak flow rates would require a device that can go from zero flow to maximum flow in milliseconds, and be able to go back to zero just as quickly. The hysteresis (i.e., the amount that the previous state impacts the future state) and the latency (i.e., the time required to return to steady flow after a transient) of the very best commercial measurement devices available today are both inadequate for millisecond-scale transients. Currently for minerals accounting purposes the Federal government and states do not require flow measurement for liquids but only gaging or strapping of the tank because of the lack of adequate measurement technology.

9.2 The Proposed Testing, Monitoring, And Other Compliance Assurance Requirements Are Inappropriate For The Oil and natural gas Industry

9.2.1 The NESHAP-Level Approach For Compliance Assurance Is Inappropriate And Unrealistic For Oil and natural gas Production Sites

For the most part, EPA has copied the full MACT control device and compliance assurance requirements in NESHAP HH (40 CFR 63, Subpart HH) for the CTG model rule, rather than craft cost-effective requirements tailored to address the unique situations related to RACT for oil and natural gas operations. The capital cost of the control device is trivial in comparison to the cost of the performance tests, monitoring, recordkeeping, etc. for complying with NESHAP HH. These ongoing operating and maintenance costs were not adequately considered by EPA in the cost effectiveness determination for the RACT recommendations. Furthermore, these RACT regulations will apply to dispersed that do not have electricity, may not have automation and may have limited space for existing automation to accept additional inputs into their programmable logic controller (PLC) and remote transmitting unit (RTU). Although it may be appropriate to evaluate control devices similar to those found in NESHAP HH major sources, it is not appropriate to arbitrarily invoke compliance assurance requirements intended for the maximum control of hazardous air pollutants (HAPs) as the standard for RACT guidelines for the control of volatile organic compounds (VOCs).

Examples of the inappropriateness of invoking MACT compliance assurance requirements for RACT guidelines include but are not limited to:

- E.2(a) of the model rule requires Continuous Parameter Monitoring System (CPMS) for control devices. EPA did not include the cost for installing, maintaining, and operating a CPMS in any of the impact assessments for this rulemaking. Most affected facilities in the production segment of the industry will be located in remote areas without available electricity or limited remote transmitting unit (RTU) space. In addition, a programmable

logic controller (PLC) is often needed to record, average, and analyze the large amounts of data to determine if a parameter is exceeded, resulting in activation of a control system or signal for site visit evaluation. The calibration, maintenance, and repair of a CPMS requires specialized crafts knowledgeable in instrumentation and controllers. This work cannot be performed by lease operators during normal inspection visits.

- E.2(f)(1) of the model rule requires the operator to establish minimum and/or maximum values for the operation parameter and operate the control device within the range. As explained in section 9.3.4, this requirement is impractical to meet for either manufacturer certified combustors or combustion controls where the performance test is performed in the field, but for different reasons. This requirement is the same as the NESHAP HH requirement located in §63.773(d)(5)(i)(a) & (c).
- Similar to above, E.2.(d)(1)(iii) of the model rule requires that a flare pilot be assured by a heat detection sensor and continuous controller. Section E.2(a) of the model rule makes this appear to be a CPMS requiring all of the assurance provisions of (c), (f) and (g). This requirement is essentially identical to the one in §63.773(d)(3)(i)(C) with the CPMS general provisions located §63.773(d)(1) requiring to meet (4), (6), & (7). Requiring a pilot monitoring device to meet the requirements for a CPMS is extremely burdensome for any rule but is unprecedented for RACT regulations.
- Compliance Demonstrations (E) and Test Methods (F). EPA reference methods that determine percent reduction on a mass basis, as is specified in Subpart HH major source control requirements where the CTG model rule does not specify percent reduction of a pollutant on a mass basis. This causes the measurement of volume that is not practical or in many cases possible with the types of operations and fluid flows typical for these facilities.

9.2.2 Compliance Assurance Requirements Are Unnecessarily Complex

The use of extensive cross referencing both between sections concerning control devices (i.e., E.1 for initial compliance requirements, F for performance testing, and E.2 for continuous monitoring requirements) and various test methodologies renders the requirements confusing and nearly impossible to follow. These segmented requirements unnecessarily add to the compliance burden, and likely to lead to errors and misunderstanding. Companies that operate stationary sources subject to EPA's NSPS and NESHAP regulations may have personnel whose sole job is to understand EPA's complex requirements. However, many companies regulated by these RACT rules are primarily small businesses that do not have this luxury. API members along with the consultants they have hired have had difficulty in interpreting the requirements for control devices as proposed. There is still not agreement of interpretation within API with many of the provisions.

9.2.3 The Compliance Assurance Requirements For Centrifugal Compressors Are Not Justified

During discussions with EPA, API was told that the control device monitoring and testing requirements of the 2012 rule were retained since few centrifugal compressors were expected to require control and that most of these affected sources would be located at more developed facilities, such as Natural Gas Processing Plants. While this statement may sufficiently explain the retention of some of the monitoring provisions, it does not address the practical considerations in complying with the performance test provisions and the identifying parameter ranges required for the continuous monitoring. Although there are few centrifugal compressors that require

control, almost all of the control devices they are connected to also fed with gases from other sources, such as storage vessels, that bring in the impracticality of flow measurement discussed in Section 9.1.3.

9.2.4 The Proposed Compliance Assurance Requirements For Pneumatic Pumps Have Numerous Problems

There are many issues with the proposed compliance assurance provisions for pneumatic pumps. Following are two major issues associated with the compliance assurance requirements. These are discussed at length in Section 15.0

Compliance Assurance Requirements of an Existing CVS/Control Device Should Not Change

EPA determined that the benefit of controlling the discharge of a pneumatic pump was insufficient to justify the installation of a control device, thus the requirement to only connect new pneumatic pumps to existing CVS/control device. Further, EPA only considered the cost of piping the pump discharge to the CVS but did not include costs for additional compliance assurance (see Section 15.3). Most control devices are expected to be installed due to state minor source NSR permits. These permits have their own compliance assurance requirements which are significantly different those in the CTG model rule, resulting in significant additional cost. These additional costs have not been included in EPA's cost analysis, cannot be justified with the low emission benefits achieved, and add no additional environmental benefit. Thus, API recommends that EPA should not require additional compliance assurance requirements in the CTG model rule for a CVS or control device when a pneumatic pump is connected to it (see Section 15.0).

Clarification is Needed When a Pneumatic Pump Must be Connected to a CVS/Control Device

There is significant uncertainty on when a pneumatic pump must be connected to a control device. Control device is an undefined term and defining it is a necessary first step to resolve this issue (see Sections 10.0 and 15.4.5). Another great source of uncertainty is when a boiler or process heater is considered a control device and when it is part of a process (see Section 10.0). API believes that pneumatic pumps should not be required to be routed to a boiler or heater.

Further, the control device and the pneumatic pump may be owned/operated by two different companies (i.e. chemical injection for gathering system corrosion control at a well site). In this case, even though a control device is at the location, it is not available to the owner/operator of the pneumatic pump (see Section 15.4.6). Finally, instances occur where it is not technically feasible to connect the pneumatic pump to the control device (see 15.3.3).

9.3 Compliance Assurance Requirements For Combustion Control Devices

9.3.1 The Proposed Compliance Assurance Requirements May Discourage The Use Of Enclosed Combustors

The design of enclosed combustors intrinsically yields higher destruction efficiencies than flares because of the heater style of burner and protection from cross wind. The enclosure also creates an induced draft of air that aids complete combustion of heavier (higher molecular weight) hydrocarbon streams. Additionally, the enclosure isolates the flame from sight that may cause concern to some members of the public. These benefits sometimes encourage industry to install the high cost internal (i.e., "enclosed") combustor instead of the commonly used open flame flare. Enclosed combustors do have the ability to be performance tested where the open nature of flares do not. It is ironic that EPA is requiring substantially more burdensome monitoring and performance testing requirements for enclosed combustors in the proposed rule, even though

these combustors have greater environmental benefit than flares. It is counterproductive for the environment to disadvantage enclosed combustors with compliance assurance requirements, just because they are technically feasible. EPA should encourage the use of enclosed combustors by using the same visual inspection requirements as with flares for opacity.

9.3.2 The Continuous Parameter Monitoring System (CPMS) Provisions Are Inappropriate

In section A.4(c) of the model rule, continuous parameter monitoring and the comparison of daily average parameter monitoring results against site-specific maximum or minimum values established during the performance test are required for storage vessels. For the reasons stated below, EPA has not justified these requirements and must not include them in the final CTG model rule.

First, these RACT requirements are considerably more stringent than the BSER requirements proposed for NSPS subparts OOOO and OOOOa. For those NSPS, EPA did not propose any parameter monitoring for storage vessel control devices. RACT-level requirements should, by definition, generally be less stringent than BSER. In this case, EPA has included RACT monitoring requirements for storage vessel control device monitoring that are orders of magnitude more stringent than the BSER requirements in the NSPS.

Second, EPA did not justify the significant additional cost of this continuous monitoring. In fact, EPA did not include costs of monitoring equipment in their capital cost estimates, nor did they include any annual costs associated with the maintenance of this system or for the collection and maintenance of this monitoring data.

9.3.3 The Determination Of CPMS Range Determinations In Field Performance Test Is Technically Impractical

Section E.2(f)(1) of the model rule requires that for any parameter that requires CPMS monitoring, the operator must determine the minimum or maximum value of the parameter that continuously achieves the performance requirements in E.1(a). E.2(f)(1)(i) requires a performance test performed by the operator to determine the minimum or the maximum operating parameter based values measured during the performance test. However, the operator has limited ability to adjust the conditions of the process to test the control device. The performance test must be run at the conditions available when the test is scheduled. The operator is unable to vary the operating conditions to determine the limit of the operating parameter as a manufacturer does when conducting a shop test on an enclosed combustor. Section E.2(f)(1)(i) cannot practically be complied with, because the performance test cannot be completed at the full range of conditions for which the control device will be operated. Furthermore, this goes far beyond what EPA requires for testing control devices for NESHAP HH for area sources that apply to nearly all oil and natural gas production sites and approaches the NESHAP HH requirements for major sources like natural gas processing facilities. For a RACT rule at a remote, unmanned site, it is more reasonable to test the device during the current operating conditions.

9.3.4 It Is Not Technically Feasible To Meet The CPMS Flow Measurement Requirements For Manufacturer Certified Combustion Control Devices

Paragraph E.2(f)(1)(iii) requires that for manufacturer certified enclosed combustors, an operator must install CPMS measurement on the inlet flow to assure that the flow is not greater than the maximum or less than the minimum that the manufacture specifies. As explained in section 9.1.3, the measurement of flow from storage vessels is very difficult, even when only the normal emissions must be measured. With both the minimum and maximum range to be measured, it is

doubtful if a single instrument can measure both values. The pump flow as well is intermittent low pressure, low velocity/flow and difficult to measure as discussed in Section 15.0.

9.4 Compliance Options For Combustion Control Devices

Section E.1(a)(1) specifies four compliance options that can be used to assure compliance with the combustion control device requirements. These options include (1) percent reduction of the pollutant, (2) limiting the concentration in the exhaust, (3) maintaining a minimum combustion zone temperature, and (4) inject the stream into the flames zone of a boiler or process heater. Comments are provided below on options 1 and 2. As explained in Section 10.0 below, option 4 is a direct conflict with the definition of "route to a process", and therefore, API recommends that EPA remove E.1(a)(1)(iv) and (d)(4)(iv).

9.4.1 Percent Reduction Of Pollutant Should Be Based On Volume Not Mass And Should Not Require Measurement of Flow to the Control

The standards for centrifugal compressors, pneumatic pumps, and storage vessels each require a percent reduction.

- For centrifugal compressors, C.2(a) requires that VOC emissions be reduced by 95.0 percent or greater
- For pneumatic pumps located between the wellhead and point of custody transfer, H.2(b)(1) requires that natural gas emissions by 95.0 percent, and
- For storage vessels, A.2(a) requires that VOC emissions be reduced by 95.0 percent

Note that in none of these standards specify the basis for the 95.0 percent reduction. However the initial compliance demonstration requirements in E.1 add the requirement that this percent reduction in emissions be determined on a mass basis. The associated performance test requirements for calculating percent reduction by weight of pollutants requires the measurement of flow to the control device. These requirements were predominantly adopted from the major source NESHAP requirements in Subpart HH that specify control requirements of 95 percent reduction by weight. While mass reduction requirements may be appropriate and specified by Subpart HH, they are burdensome and impractical for RACT requirements for small, remote, dispersed and unmanned production facilities.

Section 9.1.3 above describes the many difficulties encountered when attempting to measure the flow of vapors to a control device at oil and natural gas production sites. EPA has not explained the reason for prescribing the reduction of pollutants to be determined by weight in the compliance demonstration and performance testing requirements when a mass destruction was not specified as part of the control requirements. Conditions of intermittent high/low flow conditions, variable and turbulent flow, and variable temperature and pressure make it infeasible to perform the test methods in the production field that are typically used in refineries or chemical plants. Coupled with the dispersed and remote nature of the small sources regulated under this rule, the proposed requirements are not appropriate and are unnecessarily burdensome. API

requests EPA to determine percent of TOC reduction through a carbon balance methodology similar to that described in EPA's Flare Efficiency Study Report.¹²

The requirement in E.1(a)(1)(i), E.1(d)(1), and E.1(d)(2) should be modified to require reduction of TOC emissions by 95% on a volumetric concentration basis using a "carbon balance" methodology for analysis of the exhaust stack effluent from an "enclosed combustion device" being used as a control device to demonstrate reduction efficiency.

Methodologies 25A for TOC (calibrated to propane), 3A for CO₂ and O₂, and 10 for CO should be specified for testing of the stack effluent gas. The CO₂ measured using Method 3A should be adjusted downward by the latest published atmospheric CO₂ concentration, as reported from the Mauna Loa monitoring site by NOAA's Earth System Research Laboratory, multiplied by the ratio of O₂ measured in the stack effluent as compared to the ambient O₂ content of 20.8 volume %. (3A measured CO₂ (ppmv) – (Mauna Loa Concentration (ppmv) X (3A measured O₂ (ppmv)/208,000 (ppmv) ambient O₂ concentration)).

The percent pollutant reduction or destruction efficiency of 95% would be demonstrated when the following equation yields a value of 95% or greater:

$$(\text{CO}_{2c} + \text{CO}) / (\text{CO}_{2c} + \text{CO} + (3 * \text{TOC}))$$

Where:

CO_{2c} = CO₂ ppmv concentration measured in the stack via method 3A minus the ambient CO₂ ppmv concentration present in the stack determined as described above.

CO = CO concentration measured in the stack via method 10

TOC = Total Organic Carbon, expressed as propane, measured in the stack via method 25A

The following table shows this calculation and outcome for an assumed stack effluent composition:

Table 9-1 Assumed Stack Effluent Composition

Outlet CO ₂	30,000	Measured Value
Outlet CO	100	
Outlet TOC	30	
Outlet O ₂	150,000	
Ambient O ₂	208,000	
Ambient CO ₂	388	

¹² . Technical Report "EPA-600/2-83-052" "FLARE EFFICIENCY STUDY" by Marc McDaniel, July 1983 (see http://www3.epa.gov/ttn/chief/ap42/ch13/related/ref_01c13s05_jan1995.pdf).

Outlet CO _{2c} from combustion	29,720	Outlet CO ₂ - ((Ambient CO ₂ X (Outlet O ₂ /Ambient O ₂))
Destruction Efficiency	99.70%	(CO _{2c} + CO)/(CO _{2c} + CO + (3*TOC))

9.5 EPA Must Revise The Provisions Related To Flares Subject To §60.18

9.5.1 There Are Technical Challenges In Meeting The §60.18 For Flares In Oil and natural gas Production And Gas Processing That Must Be Addressed

Flares are an attractive control device choice for the oil and natural gas industry due to their simplicity, reliability, lower maintenance requirements, and effectiveness in reducing organic compound emissions. The requirements in §60.18 of the 40 CFR part 60 General Provisions were developed by EPA to generally apply to flares. However, these requirements were developed and refined based on industrial flares primarily used at large petroleum refineries and petrochemical plants. As discussed above in section 9.1, there are unique aspects of the oil and natural gas industry that require accommodations in the control device requirements. The following sections suggest changes related to the application of the §60.18 provisions to Subpart OOOO and OOOOa affected facilities that will allow the compliant use of flares in the oil and natural gas industry without compromising their effectiveness in reducing VOC and methane emissions.

9.5.2 The Use Of Electronic Ignition Systems Should Be Allowed

§60.18(c)(2) requires that flares shall be operated with a flame present at all times, as determined by monitoring using a thermocouple or any other equivalent device to detect the presence of a flame.

API continues to believe that an option to use electronic ignition systems should be allowed for the oil and natural gas sector. Since oil and natural gas operations are not always steady state, flares with continuously lit pilots (24/7) can unnecessarily burn and waste fuel gas for the pilot while causing unnecessary emissions when there is otherwise no emissions stream being burned. An attractive and effective alternative is to allow the use of electronic ignition systems that ensure a flame is present whenever emissions are being routed to the flare.

In addition, many oil and natural gas production sites are remote and unmanned. In these situations, an electronic ignition system has proven to be a more reliable means of ensuring there is always a flame when emissions are routed to the flare than attempting to maintain a continuous pilot.

In the Natural Gas STAR program, EPA published a Partner Recognized Opportunity (PRO) in PRO Fact Sheet No. 903.¹³ Presumably this was published because EPA approves of the design, recognizes its benefits and wanted to promote its use in industry. EPA should not forfeit the benefits of this control technology enhancement by disallowing its use. As an established and

¹³ <http://www3.epa.gov/gasstar/documents/installelectronicflareignitiondevices.pdf>

preferred technology by EPA in the Natural Gas STAR program, operators should not have to petition EPA for approval.

API recognizes the need to ensure that the electronic ignition system is working and that a flame is present at all times when emissions are being routed to the flare. API believes that the existing requirements in §60.18(f)(2) already provides an appropriate requirement: Paragraph (e) states that “Flares used to comply with provisions of this Subpart shall be operated at all times when emissions may be vented to them” and (f)(2) states “The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.” With the simple amendments to F(a)(1) and E.2(d)(1)(iii) shown below, EPA can allow the use of auto-ignition devices while also ensuring compliance.

Specific recommendations for these amendments are provided in section 9.5.5.

9.5.3 Testing Should Not Be Required To Demonstrate Compliance With §60.18(f)(4)

Paragraph 60.18(f)(4) requires that the volumetric flow rate be “*determined by Reference Methods 2, 2A, 2C, or 2D as appropriate*”. As a result, a test will be required for every flare used to comply with the CTG model rule. As discussed in section 9.1, the measurement of flow is impractical and potentially impossible at oil and natural gas production sites. In addition, even if these technical challenges were ignored, EPA’s estimate of impacts did not include significant costs that would be incurred by the industry.

While not specifically referenced in this paragraph, the provisions in §60.8(c) require that performance tests be conducted on conditions that reflect “*representative performance of the affected facility*.” During representative conditions, the exit velocities of the flare at oil and natural gas sites will never approach 400 feet per second. This can be easily demonstrated through the use of engineering calculations rather than testing or direct measurements. Specific changes must be made to F(a) to correct this situation. The recommendations for these amendments are provided in section 9.5.5

The technical challenges related to volumetric flow rate are not unique to storage vessels in the production segment. At many gas processing plants, pressure release devices are often routed to flares along with the emissions from other equipment. While there are typically no emissions from these pressure release devices, they can develop leaks. Under subparts OOOO and OOOOa, these pressure relief devices are subject to §60.482-4a(a) of NSPS subpart VVa. Since these pressure release devices are routed to a “closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device”, they are exempt from the LDAR requirements in §60.482-4a(a) and (b), but are subject to the closed vent system and control device requirements of §60.482-10a. Paragraph §60.482-10a(d) requires flares to comply with §60.18. The leaks that would occur from these pressure release devices would be very low, meaning that the difficulties in measuring the flow to these flares results in costly test programs that are entirely unnecessary given the extremely low flow rates. Therefore, API also recommends that the volumetric flow rate for these flares also be allowed to be determined using engineering calculations. API suggests that paragraphs be added to G.3 to address this technical infeasibility situation. These recommendations for these amendments are provided in section 9.5.5.

9.5.4 Sonic And Other Flares Operated During Maintenance, Startup, Shutdown, And Malfunction Situations Should Not Be Required To Comply With The Exit Velocity Requirements In §60.18(c)(4)

In EPA's September 18, 2015 Federal Register Notice (80 FR 56646), EPA specifically requested comment on the use of pressure-assisted flares in the oil and natural gas industry.

As EPA notes, pressure-assisted, or sonic, flares are designed to exceed §60.18's maximum exit velocity of 400 feet per second. As a result, they do not meet §60.18. Some facilities with potential large volume flows may utilize sonic flares, such as those included at onshore natural gas processing facilities, to control emissions in times of emergency, upsets, or maintenance. Sonic flares offer advantages over traditional low-pressure flares in some applications. For example, some designs allow smokeless operation over the entire operating range without any assist medium. This is a clear benefit for remote areas. Additionally, with no assist medium, energy usage and its related emissions are minimized and there remains no potential for steam/air over-assist. Some designs also offer less low frequency noise and less flame visibility in low profile designs. Sonic flares operate with destruction efficiencies that are at least as equivalent to, and generally greater, than low pressure flares.

Pressure-assisted (sonic) flares are not designed for continuous use, but instead operate in emergency, upset or maintenance situations where high volumes and pressures are sent to the flare. In some scenarios, pressure relief valves subject to LDAR monitoring are routed to sonic flares for the purpose of emergencies or upsets. Maintenance events are also routed to these flares in some cases.

However, a conflict with the velocity limits in §60.18(c)(3) is not limited to the case of pressure-assisted flares. Velocity limits for commonly used low-pressure flares (ground or elevated steam-assisted, air-assisted or unassisted flares) are achievable under representative day-to-day conditions. However, velocity limits for even low-pressure flares can be exceeded under conditions that approach the hydraulic capacity of flares. General application of §60.18(b) to a Subpart without the inclusion of §60.11 or an alternative exemption for periods of emergency, upset or maintenance is problematic.

Flares designed under §60.18(b) may exceed velocity limits during periods of emergency, upset or maintenance. In order to remain in compliance with the velocity limits, flare operators would need to install additional flare capacity for SSM events either by replacing an existing flare or adding additional flares. Therefore, the exemption from the §60.18 maximum velocity requirements should not be limited to pressure-assisted flares, but rather to all flares during periods of emergency, upset, or maintenance. As discussed in section 9.5.6 below, there is substantial evidence that indicates that the performance of flares will be maintained at these higher velocities.

Therefore, in order to allow the use of sonic flares and traditional flares designed under §60.18(b) for the oil and natural gas industry, EPA should exempt flares from the maximum velocity requirements in §60.18(c)(4).

Revisions are needed to F(a) and to G to allow the use of flares in these situations. The recommendations for these amendments are provided in section 9.5.5.

9.5.5 Recommended Model Rule Changes To Address Issues With Flare Requirements

Following are the recommended rule changes related to the issues discussed above that are related to the requirement that flares used for compliance with the CTG model rule comply with the requirements of §60.18.

G.3

(h) For a flare that is subject to §60.18 via §60.482-10a(d), the volumetric flowrate used to calculate the actual exit velocity in §60.18(f)(4) may be determined using engineering calculations based on conditions that reflect representative performance of the process unit. In addition, the velocity limits in §60.18(c)(3) do not apply during periods of emergency, upset, or maintenance.

E.1

(d) Each control device used to meet the emission reduction standard in section A.2 for a storage vessel must be installed according to paragraphs (d)(1) through (45) of this section, as applicable. As an alternative to paragraph (d)(1) of this section, you may install a control device model tested under section F(d), which meets the criteria in section F(d)(11) and F(e).

* * * * *

(3) You must operate each control device used to comply with this subpart at all times when gases, vapors, and fumes from working or flash losses are vented from the storage vessel affected facility through the closed vent system to the control device. You may vent more than one affected facility to a control device used to comply with this subpart.

* * * * *

(5) You must design and operate a flare in accordance with the requirements of section F.

F(a)(1)

(1) A flare that is designed and operated in accordance with §60.18(b), with the exceptions noted in paragraphs (a)(1)(i) through (iii) of this section. You must conduct the compliance determination using Method 22 of appendix A-7 of this part to determine visible emissions.

(i) A flare that is equipped with an electronic ignition system will satisfy the requirements in §60.18(c)(2) and (e),

(ii) The volumetric flowrate used to calculate the actual exit velocity in §60.18(f)(4) may be determined using engineering calculations based on conditions that reflect representative performance of the centrifugal compressor, pneumatic pump, or storage vessel affected facility, and

(iii) During periods of emergency, upset, or maintenance, the velocity limits in §60.18(c)(3) do not apply.

E,2(d)(1)

(iii) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the ~~continuous ignition of the pilot flame~~ presence of a flame as required in E.1(d)(3).

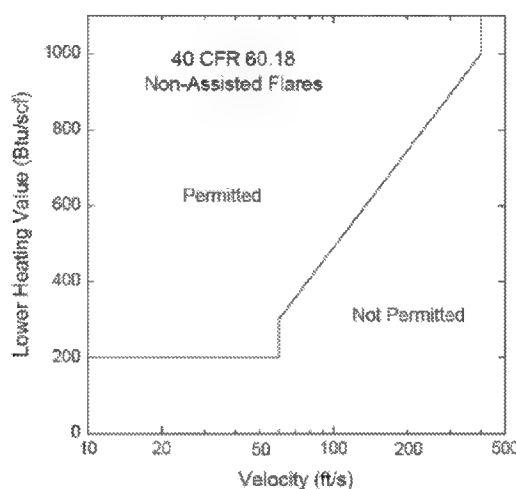
9.5.6 Velocity Limits in §60.18(c)(3) Are Unnecessary To Ensure High Destruction Efficiency in Flares

There is substantial evidence that flares operating with higher exit velocities are effective in reducing emissions. Following is a discussion of this evidence.¹⁴

Origins of Existing Flare Velocity Limits

The velocity limits in 40 CFR 60.18 were originally promulgated on January 21, 1986 and are graphically depicted below. The figure shows flame exit velocities in feet-per-second (fps) along the x-axis and lower heating value of the waste gas in Btu per standard cubic feet (scf) along the y-axis. A minimum heat content is required of 200 Btu/scf for unassisted flares or 300 Btu/scf for assisted flares up to 60 fps, where the required heat content increases as a function of exit velocity until a maximum allowable velocity of 400 fps is reached.

Figure 9-1 Current EPA Flare Velocity Limits



This relationship was developed following a series of EPA sponsored tests conducted in the 1980's that examined how various flare operating parameters, including velocity, affect flare performance. The tests with relevance to the current velocity requirements are the 1983 McDaniel¹⁵ test and the 1984 Pohl¹⁶ test. The focus of the 1985 Pohl¹⁷ and 1986 Pohl¹⁸ studies was not on high velocity, but any test runs from these studies where the exit velocity of the flare was greater than 60 feet per second (fps) have been included in this analysis.

The 1986 limits appear to originate with only four data points from these tests – the average value at the upper limits of each study. The 60 fps, 300 Btu/scf limit for steam-assisted flares was set

¹⁴ Adapted from "A Review of Flare Velocity Limits in 40 CFR 60.18 and 63.11." Prepared for American Petroleum Institute October 26, 2014 by Scott Evans.

¹⁵ McDaniel, M.; "Flare Efficiency Study," EPA-600/2-83-052, July 1983

¹⁶ Pohl, J., et. Al.; "Evaluation of the Efficiency of Industrial Flares: Test Results," EPA-600/2-84-095

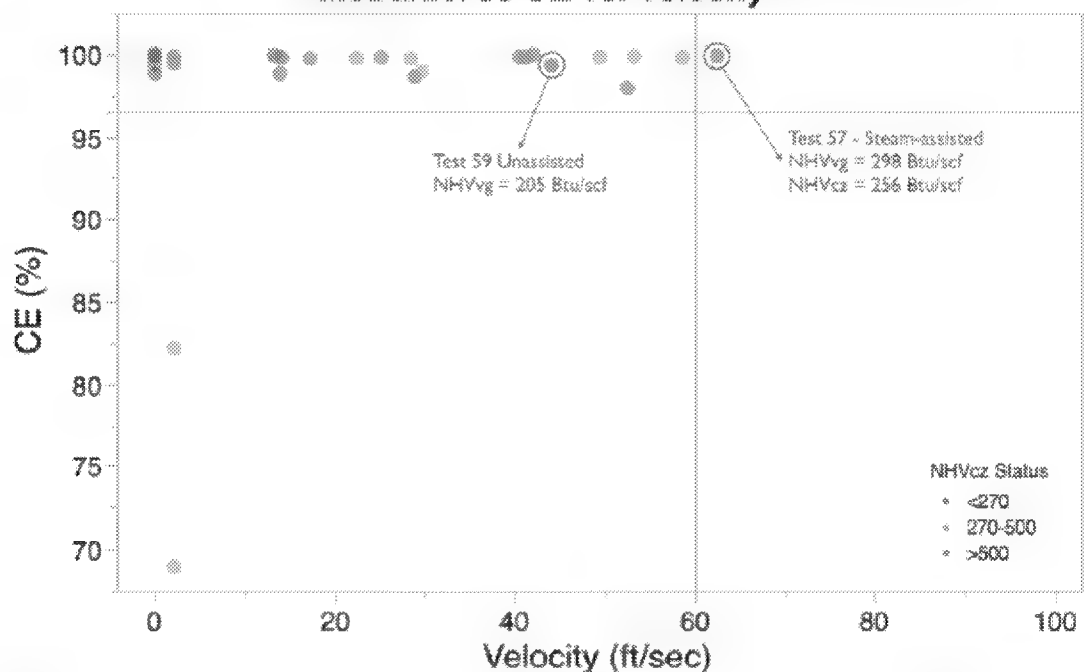
¹⁷ Pohl, J, and Soelberg, N.; "Evaluation of the Efficiency of Industrial Flares: Flare Head Design and Gas Composition," EPA-600/2-85-106, September 1986

¹⁸ Pohl, J, and Soelberg, N.; "Evaluation of the Efficiency of Industrial Flares: H2S Gas Mixtures and Pilot Assisted Flares," EPA-600/2-86-080; September 1986

based on a single data point -- McDaniel 1983¹⁵ test 57. The 200 Btu/scf limit for unassisted flares was also set based on a single data point -- McDaniel test 59. These tests were performed on an 8.6-inch steam-assisted flare fueled with a propylene/nitrogen mix. The data are shown in

Figure 9-3. The data are binned by heat content, where red dots indicate test runs whose combustion zone net heating value (NHVVG) is less than 270 Btu/scf, green dots indicate test runs with NHVVG between 270 and 500 Btu/scf, and blue indicate test runs with NHVVG greater than 500 Btu/scf.

Figure 9-2 A Comparison of Combustion Efficiency vs Velocity for McDaniel 1983
McDaniel 83 CE vs. Velocity

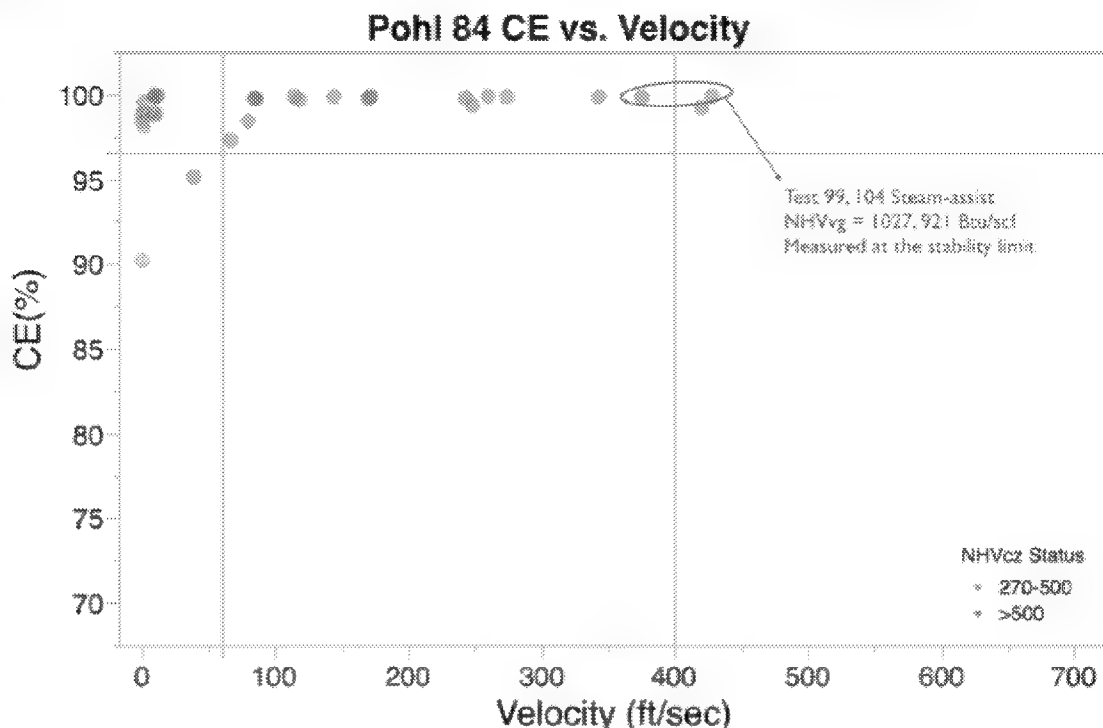


McDaniel did not collect data at velocities higher than 60 fps. At the 60 fps upper limit of the data, combustion efficiency remained very high and with no evidence of a trend toward lower combustion efficiency. These data were used to establish the 60 fps velocity limit although there is no evidence that operating at higher velocities results in degraded combustion efficiency.

The 400 fps, 1,000 Btu/scf limit appears to be set based on two data points from flame stability test runs 99 and 104 from Pohl 1984.¹⁶ That study was performed on a 3-inch steam assisted flare fueled with a propane/nitrogen mix. These data are shown in

Figure 9-3. The data are binned by heat content, where green dots indicate test runs with NHVCZ between 270 and 500 Btu/scf and blue indicate test runs with NHVCZ greater than 500 Btu/scf.

Figure 9-3 A Comparison of Combustion Efficiency vs Velocity for Pohl 1984



Similarly to the data used to establish the 60 fps limit, data collected in this study were not collected at velocities higher than the upper limit of 400 fps. As in McDaniel 83, Pohl 84 showed no evidence of a trend towards lower combustion efficiency at the upper velocity limit measured. These data were used to establish the 400 fps limit although there is no evidence that operating at higher velocities results in degraded combustion efficiency.

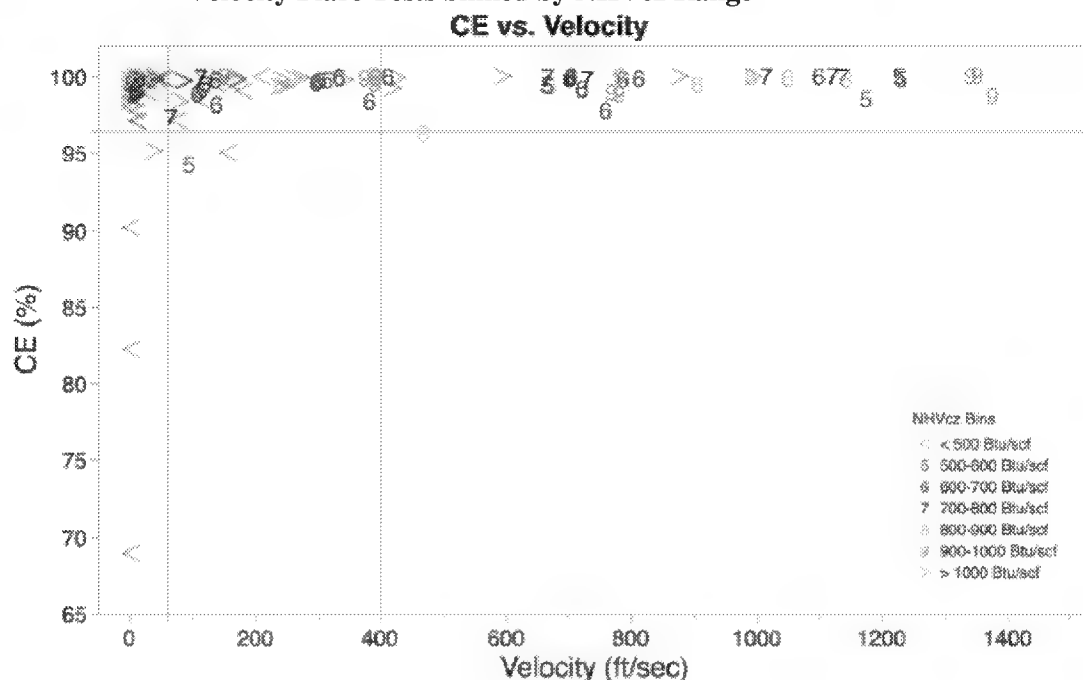
High Velocity Flare Test Data

Figure 9-4 shows all data from publically available high velocity flare tests as of October 2014. Some low velocity data are also included to the extent that they were measured during a test series including high velocity data. Data includes the 1980's flare studies referenced above as well as more recent studies (Marathon Garyville¹⁹ and Dow²⁰). This data is similarly displayed based upon combustion efficiency (CE) as a function of exit velocity in fps. The data is binned by combustion zone net heating value (NHVCZ) in groups of 500 Btu/scf. Only data with NHVCz > 270 are included.

¹⁹ Clean Air Engineering, "Performance Test of Steam-Assisted and Pressure-Assisted Ground Flare Burners with Passive FTIR – Garyville," March 21, 2013

²⁰ Varner, V., Kodesh, Z.; "Emission Testing of Pressure Assisted Flare Burners," Presented at the American Flame Research Committee 2014 Industrial Combustion Symposium, September 2014

Figure 9-4 A Comparison of Combustion Efficiency vs Velocity for All Publicly Available High Velocity Flare Tests binned by NHVcz Range



Almost all of the low velocity data that also have low CE have NHVcz values less than 500 Btu/scf. Additionally, virtually all of the test runs with velocity greater than the current limit of 400 fps, were conducted at NHVcz values less than the current 1,000 Btu/scf limit. This graph clearly shows that high combustion efficiency above the current limits is not only possible, but that it is assured based upon available test data.

Flame Stability

The claim is often made that the reason velocity limits are necessary is to ensure “flame stability.” However, flame stability has been defined differently in different studies. McDaniel did not address flame stability. Pohl defines flame stability as:

The term “flame stability” simply means that a flame is maintained; flame instability occurs when the jet velocity exceeds the flame velocity and the flame goes out. [Pohl 84, p2-3]

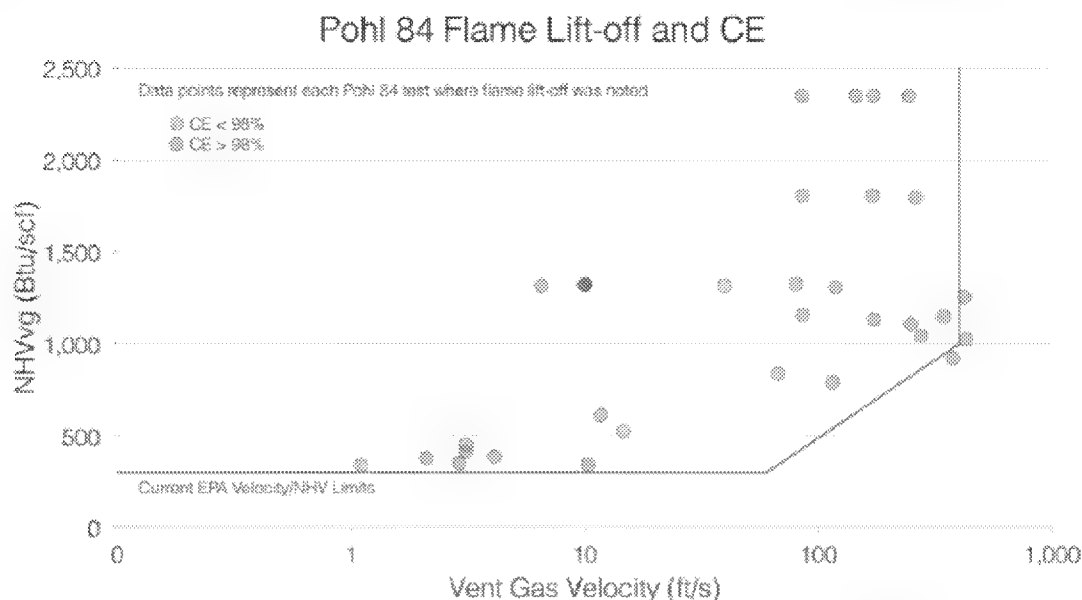
Others²¹ have defined flame stability in terms of “lift-off”, a conditions that occurs when the base of the flame detaches from the flare tip.

While there is no doubt that Pohl’s definition results in unacceptable flare performance, there is little evidence that flame lift-off has any correlation either positive or negative to combustion

²¹ Shore, D., “Improving Flare Design: A Transition From Art-Form to Engineering Science,” Presented at AFRC-JFRC October, 2007.

efficiency. Figure 5 shows every data point from Pohl 84 where flame lift-off was noted in the report.

Figure 9-5 A Comparison of Flame Lift-Off and Combustion Efficiency from Pohl 84



27 of the 32 lifted flames showed high combustion efficiency. None of the remaining five points had measured combustion efficiency below 91%. Figure 9-5 clearly shows that flame lift-off does not affect combustion efficiency over a wide range of velocities and net heating values.

Concern over flame lift-off affecting combustion efficiency is not supported by the data. The only definition of flame stability with relevance to velocity limits is Pohl's definition... a high velocity flame is stable until it goes out.

There is also no evidence of a gradual decline of combustion efficiency when approaching the point where the flame is extinguished or the "snuff point." Both the Pohl 84 data and the Marathon Garyville data were collected as near as possible to the snuff point while still maintaining a flame. No evidence of degraded combustion efficiency was noted.

Conclusion

Current flare velocity limits restrict flare operation above 60 fps and prohibit operation entirely above 400 fps. This paper reviewed data from the data sets used to establish those federal regulatory velocity limits as well as recent high velocity flare test results.

All of the data collected, including the data used previously to set current limits as well as recently collected data, show that high velocity flaring results in high flare combustion efficiency (>96.5%). Previous limits were based solely on lack of data at higher flare exit velocities. There is no indication either in the 1980's studies or the more recent flare studies that high velocity flaring contributes to poor combustion efficiency.

The data on high velocity flaring is consistent with combustion theory, which shows that high velocity flames result in better air entrainment and mixing and so result in higher combustion efficiency. Limits on high velocity flaring are unnecessary and, in fact, counter-productive.

9.6 While EPA Has Been Testing Various Manufacturer Devices, The Process Has Been Slow

The CTG model rule allows for the use of combustion devices that are tested by the manufacturer which eliminates the need for source testing at the site. This has been allowed under NSPS Subpart OOOO (40 CFR 60, Subpart OOOO) and MACT HH and HHH (40 CFR 63, Subparts HH and HHH), for several years. EPA maintains a list of approved Combustion Control Devices²² on their website. EPA has also stated that the current “approved list” will be adopted for OOOOa. API requests confirmation of this in the response to comments to reflect EPA’s intent.

However, there are several issues with the approval process. First, more than half of the devices listed on the website are characterized as “under review”, and they have maintained this status for a long period of time (one or more years). According to one manufacturer, the approval process should be less than a month. The CTG will result in the need for many more combustion devices to control existing sources, which increases the need to shorten the approval process. Closer inspection revealed that incomplete test reports may be a possible cause for achieving “under review” status, and therefore it may not be a fault of EPA’s process. However, EPA needs to investigate the cause for these long delays in this approval process and correct them.

Second, manufacturers report that relief from propene testing would decrease the testing costs considerably. The requirement for propene testing for combustion devices that will be used at oil and natural gas production facilities seems illogical as there are insignificant amounts of double bond hydrocarbon compounds in natural gas. API requests that F(d)(2) be modified as follows to allow the use of propane to expedite the approval process.

(2) Performance testing must consist of three 1-hour (or longer) test runs for each of the four firing rate settings specified in paragraphs (d)(2)(i) through (iv) of this section, making a total of 12 test runs per test. ~~Propene (propylene)~~ Propane gas must be used for the testing fuel. All fuel analyses must be performed by an independent third-party laboratory (not affiliated with the control device manufacturer or fuel supplier).

10.0 EPA MUST ELIMINATE THE CONFUSION AND CONFLICT ASSOCIATED WITH “CONTROL DEVICE” AND “ROUTED TO A PROCESS”

It is clear from the model rule control requirements for centrifugal compressors at C.2(b), pneumatic pumps at H.2(b)(4), and storage vessels at A.2(b)(1) that “route to a process” was intended as an alternative to a control device. For example:

A.2(b)(1): Except as required by paragraph (b)(2) of this section, if you use a control device to reduce emissions, you must equip the storage vessel with a cover that meets the requirements of Section D.1(a), that is connected through a closed vent system that meets the requirements of section D.1(b), and routed to a control device that meets the conditions specified in paragraph (b)(3)(i) and (ii) of this section. As an alternative to routing the closed vent system to a control device, you may route the closed vent system to a process.

²² <http://www3.epa.gov/airquality/oilandgas/pdfs/mantesteddevices.pdf>

However, the definitions and provisions related to “control device” and “routed to a process” are inconsistent and confusing, and in some instances, conflicting. This is particularly the case with regard to boilers and process heaters. The following sections highlight these issues and suggest a recommendation that will eliminate the confusion and conflicts without any reduction in the effectiveness of the rule.

10.1 Definition Of “Routed To A Process” Should Be Clarified

The CTG model rule includes the following definition:

Routed to a process or route to a process means the emissions are conveyed via a closed vent system to any enclosed portion of a process where the emissions are predominantly recycled and/or consumed in the same manner as a material that fulfills the same function in the process and/or transformed by chemical reaction into materials that are not regulated materials and/or incorporated into a product; and/or recovered. Salable quality gas means natural gas that meets the flow line or collection system specifications, regardless of whether such gas is sold.

The use of “routed to a process” is clear as used in connection to a VRU, as these emissions are recycled and incorporated into a product.

This definition also unmistakably applies to situations where the emissions are combusted in a boiler or process heater. There are three different ways in which hydrocarbon vapors can be fed into a boiler or process heater for destruction – 1) vapors routed to the flame zone, 2) vapors routed to the fuel system as a primary fuel, and 3) vapors routed to the combustion air supply as a secondary fuel. For all three of these methods of introducing hydrocarbon emissions into a boiler or process heater the emissions are clearly “consumed in the same manner as the material that fulfills the same function in the process” Further, the emissions are “transformed by chemical reaction into materials that are not regulated materials”. However, the CTG model rule is not as clear how this definition applies for boilers and process heaters. EPA must clarify this linkage between “routed to a process” and boilers and process heaters throughout the model rule.

Despite the fact that EPA defined routed to a process/route to a process in a manner that would include all situations when emissions are routed to a boiler or process heater, there are instances throughout the model rule where EPA appears to consider boilers and process heaters as control devices. For example, in E.1(a)(1), EPA includes boilers and process heaters in a parenthetical describing a combustion device (e.g., thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater). Similarly, this same parenthetical description of enclosed combustion device in in E.1(d)(1). Further, in the list of “control devices” exempted from performance testing in F(a), there are several specific boiler and process heater examples that are exempted.

One of these exemptions, specifically F(a)(3), exempts boilers or process heater “into which the vent stream is introduced with the primary fuel or is used as the primary fuel.” These seems to indicate that EPA draws a distinction between the three situations described above where emissions are routed to a boiler or process heater (even though they are all three clearly covered by the definition of “routed to a process”).

The recommended changes discussed below resolve this conflict.

10.1.1 NSPS Subparts VV And VVa Include The Concept Of “Fuel Gas”

In the rulemakings for NSPS Subparts VV and VVa, EPA has addressed this same basic situation in a clear and reasonable manner. For example, §60.482-4a(c) states that:

“Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in §60.482-10a is exempted from the requirements of paragraphs (a) and (b) of this section.”

Further, Subpart VVa includes the following related definitions.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination.

API believes that this precedent can be utilized to improve the clarity in Subparts OOOO and OOOOa. This recommendation is provided below.

10.1.2 Recommended Change to Definition Of “Routed To A Process Or Route To A Process”

API recommends that the following changes be made to the definition of routed to a process or route to a process” in the CTG model rule.

Routed to a process or route to a process means the emissions are conveyed via a closed vent system to any enclosed portion of a process where the emissions are predominantly recycled and/or consumed in the same manner as a material that fulfills the same function in the process and/or transformed by chemical reaction into materials that are not regulated materials and/or incorporated into a product; and/or recovered. Salable quality gas means natural gas that meets the flow line or collection system specifications, regardless of whether such gas is sold. Emissions used as fuel gas in a boiler, process heater, or other combustion device are considered to be routed to a process.

API further recommends that the following definition of fuel gas be added.

Fuel gas means gases that are combusted to derive useful work or heat.

10.2 Definitions Of “Control Device”, “Combustion Device”, And “Combustion Control Device”

The confusion discussed above related to boilers and process heaters and routed to a process is exacerbated by the fact that the CTG model rule does not define control device. In addition to this situation that needs to be corrected, the model rule requirements for pneumatic pumps make defining “control device” critical. This is discussed later in Section 15.4.5,

As discussed in Section 10.1.2, the definition of “routed to a process” clearly includes routing emissions to a boiler or process heater to be consumed, yet the CTG model rule discusses boilers and process heaters as control devices in other places.

In addition, the situation is further confused as EPA uses the terms “combustion device”, “combustion control device”, and “enclosed combustion control device” in an arbitrary manner that further confuses the situation. None of these terms are defined in the CTG model rule.

In conjunction with the recommended definitions in Section 10.1.2 API offers the following definitions to be added to the CTG model rule.

Control device means any equipment used for recovering or oxidizing volatile organic compound (VOC) or methane emissions. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, and combustion devices. Recovery devices that recycle the emissions back to the process, and combustion devices that use the emissions as fuel gas, are not considered control devices under this rule.

Combustion control device means a thermal vapor incinerator, catalytic vapor incinerator, flare, or other combustion device that do not burn emissions as a fuel gas.

Enclosed combustion control device means a combustion control device with an enclosure such that the flame is not an open flame.

This definition of control device, along with the definition of “routed to a process or route to a process” recognizes that routing to a process is not emissions control but rather a beneficial use or reuse of exhaust gases and vapors. Thus, routing pneumatic pump exhaust or compressor blowdown gas to be used as a fuel gas would not make heaters and boilers using these streams part of a control device.

In addition, the following changes are needed throughout the model rule to rectify the inconsistent usage of these terms throughout. These changes also address the changes related to boilers and process heaters and “routed to a process.”

E.1

(a) Each control device used to meet the VOC emission reduction requirements must be installed according to paragraphs (a)(1) through (3) of this section. As an alternative, you may install a combustion control device model tested under section F(d), which meets the criteria in section F(d)(11) and section F(e).

(1) Each combustion control device (e.g., ~~thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater~~), except for a flare, must be designed and operated in accordance with one of the performance requirements specified in paragraphs (a)(1)(i) through (iviii) of this section.

* * * * *

~~(iv) If a boiler or process heater is used as the control device, then you must introduce the vent stream into the flame zone of the boiler or process heater.~~

* * * * *

(d) Each control device used to meet the emission reduction standard in section A.2 for a storage vessel must be installed according to paragraphs (d)(1) through (4) of this section, as applicable. As an alternative to paragraph (d)(1) of this section, you may install a combustion control device model tested under F(d), which meets the criteria in F(d)(11) and F(e).

(1) For each enclosed combustion control device (e.g., ~~thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater~~) you must meet the requirements in paragraphs (d)(1)(i) through (iv) of this section.

* * * * *

(iv) Each combustion control device (e.g., ~~thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater~~) must be designed and operated in accordance with

one of the performance requirements specified in paragraphs (i) through (iii) of this section.

~~(iv) If a boiler or process heater is used as the control device, then you must introduce the vent stream into the flame zone of the boiler or process heater.~~

F

(a) Performance test exemptions. You are exempt from the requirements to conduct performance tests and design analyses if you use any of the control devices described in paragraphs (a)(1) through (75) of this section.

~~(2) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.~~

~~(3) A boiler or process heater into which the vent stream is introduced with the primary fuel or is used as the primary fuel.~~

(42) A boiler or process heater burning hazardous waste for which you have either been issued a final permit under 40 CFR part 270 and comply with the requirements of 40 CFR part 266, Subpart H; or you have certified compliance with the interim status requirements of 40 CFR part 266, Subpart H.

(53) A hazardous waste incinerator for which you have been issued a final permit under 40 CFR part 270 and comply with the requirements of 40 CFR part 264, Subpart O; or you have certified compliance with the interim status requirements of 40 CFR part 265, Subpart O.

(64) A performance test is waived in accordance with §60.8(b).

(75) A combustion control device whose model can be demonstrated to meet the performance requirements of E.1(a) through a performance test conducted by the manufacturer, as specified in paragraph (d) of this section.

* * * * *

~~(b)(3)(iv) Reserved If the vent stream entering a boiler or process heater with a design capacity less than 44 megawatts is introduced with the combustion air or as a secondary fuel, you must determine the weight percent reduction of total TOC (minus methane and ethane) across the device by comparing the TOC (minus methane and ethane) in all combusted vent streams and primary and secondary fuels with the TOC (minus methane and ethane) exiting the device, respectively.~~

E.2

~~(b) Reserved You are exempt from the monitoring requirements specified in paragraphs (c) through (g) of this section for the control devices listed in paragraphs (b)(1) and (2) of this section.~~

~~(1) A boiler or process heater in which all vent streams are introduced with the primary fuel or are used as the primary fuel.~~

~~(2) A boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts.~~

* * * * *

~~(d)(1)(iv) Reserved For a boiler or process heater, a temperature monitoring device equipped with a continuous recorder. The temperature monitoring device must have a minimum accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$, or $\pm 2.5^{\circ}\text{C}$, whichever value is greater. You must install the temperature sensor at a location representative of the combustion zone temperature.~~

* * * * *

(d)(1)(viii) (A) The continuous monitoring system must measure gas flow rate at the inlet to the combustion control device. The monitoring instrument must have an accuracy of ± 2 percent or better. The flow rate at the inlet to the combustion control device must not

exceed the maximum or be less than the minimum flow rate determined by the manufacturer.

(B) A monitoring device that continuously indicates the presence of the pilot flame while emissions are routed to the combustion control device.

11.0 THE PROPOSED BY-PASS DEVICE REQUIREMENTS ARE NOT REASONABLE AND WERE NOT JUSTIFIED BY EPA

EPA failed to consider the cost and technical feasibility of the audible alarm and notification via remote alarm at the nearest field office for non-secured by-pass device requirements. A remote alarm at a field office does not add any additional environmental benefit, where an onsite device meets the intent of the alarm requirements. There are several considerations for a field office to receive data from field locations including onsite equipment, programming, and installation and maintenance. Adding an alarm will require installation of new equipment requiring potentially a facility to be shut down and the equipment purged so that "hot work" can be performed to install the equipment which will result in additional emissions. Furthermore, a company would need a remote transmitter unit (RTU) installed or have an existing RTU with sufficient capacity to transmit a signal from the device to an operations center to notify the operations center. There are also cost from programming, installation, and maintenance of the alarm. Equipment and installation costs are several thousands of dollars for each data point, per site, routed into a system, even if existing monitoring equipment is located onsite. Ongoing support and maintenance of the monitored parameter is required to sustain operation

For bypass devices secured with a car-seal or lock-and-key type configuration, the requirement is for visual verification that the device is secured. The requirements for non-secured devices should be similar and only require verification if the alarm - whether audio or visual - has been triggered. Since there is a flow indicator present, the amount vented would be known. Following are recommended changes to the CTG model rule language:

D.1(b)(3)(i)(A)

(A) You must properly install, calibrate, maintain, and operate a flow indicator at the inlet to the bypass device that could divert the stream away from the control device or process to the atmosphere. Set the flow indicator to trigger an audible and/or visible alarm, ~~and initiate notification via remote alarm to the nearest field office,~~ when the bypass device is open such that the stream is being, or could be, diverted away from the control device or process to the atmosphere.

D.2(d)(1)

(d) For each bypass device, except as provided for in section D.1, you must meet the requirements of paragraphs (d)(1) or (2) of this section.

(1) Set the flow indicator to take a reading at least once every 15 minutes at the inlet to the bypass device that could divert the steam away from the control device to the atmosphere. You must properly install, calibrate and maintain a flow indicator at the inlet to the bypass device that could divert the stream away from the control device or process to the atmosphere. Set the flow indicator to trigger an audible and/or visible alarm when the bypass device is open such that the stream is being, or could be, diverted away from the control device or process to the atmosphere.

12.0 THERE IS UNNECESSARY OVERLAP AND REDUNDANCY BETWEEN THE COVER AND CLOSED VENT SYSEM AND FUGITIVE EMISSION REQUIREMENTS

EPA proposes fugitive monitoring like requirements for closed vent systems, but also includes closed vent systems in the definition of Fugitive Emission Components. This results in CVS being subject to both closed vent system requirements in Section D and the fugitive emission component monitoring requirements in Section I. This creates a situation which is unnecessarily duplicative and redundant. Specifically, EPA has required both optical gas imaging monitoring for the tank cover and the closed vent systems under Section I, as well as annual Method 21 (M21) monitoring and visual inspections for closed vent systems under Section D. This could result in as many as three different leak detection programs at a single facility.

To avoid this conflict, API provides recommendations that will eliminate this overlap while still ensuring that emissions from leaks from closed vent system components are minimized. The problem and API's recommendations are discussed in detail in Section 16.0.

TECHNICAL COMMENTS

13.0 STORAGE VESSELS

13.1 The Cost Analysis For Retrofitting Existing Storage Tanks With Controls Is Inadequate

In section 4.3.1.2 of the Draft CTG, EPA describes the control option of routing emissions to a combustion device. API agrees that a combustor is one of the technically feasible options to reduce VOC emissions from storage vessels. In this section, EPA estimates the cost impacts of a combustor. These costs are summarized in Table 4-5 of the CTG. However, this cost analysis is inadequate in several respects, ranging from simple mathematical errors to the omission of cost elements that EPA includes in their own guidance. Section 10.1.1 summarizes the background for EPA's cost estimate. This is followed by section 10.1.2, which discusses the numerical errors and section 10.1.3, which shows how EPA omitted costs identified in the EPA OAQPS Control Cost Manual from the analysis.

Note that these corrections do not account for the testing, monitoring, and other compliance costs that are included in the CTG model rule, as discussed in section 9.0. If EPA maintains these onerous requirements in the final CTG, they must update the cost analysis further to include these costs.

13.1.1 Basis For Draft CTG Cost Estimate For Combustors For Storage Vessels

EPA evaluated costs for control of vapors from storage vessels as described in the 2012 Technical Support Document (2012 TSD) for NSPS OOOO.²³ As stated in section 7.3 of the 2012 TSD, cost data for a combustor were obtained from an Initial Economic Impact Analysis prepared for the proposed State-only revisions to a Colorado regulation (2008 Colorado EIA),²⁴ which were assumed to be in 2007 dollars. EPA escalated the costs to 2008 dollars using the Chemical Engineering (CE) Indices for 2007 (525.4) and 2008 (575.4),²⁵ or a factor of 1.0952. EPA also added estimated costs for operating and maintenance labor. These cost data are summarized below in Table 13-1.

²³ U.S. EPA, "Oil and Natural Gas Sector: Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution," Background Supplemental Technical Support Document for the Final New Source Performance Standards, April 2012.

²⁴ Initial Economic Impact Analysis for Proposed State-Only Revisions to the Colorado Air Quality Control Commission's Regulation Number 7, "Emissions of Volatile Organic Compounds." September 18, 2008.

²⁵ Economic Indicators: Chemical Engineering Plant Cost Index. Chemical Engineering Magazine.

Table 13-1 NSPS Subpart OOOO Cost Analyses for Combustor for Storage Vessels

		NSPS 2012 TSD Table 7-5	NSPS 2012 TSD Table 7-5
Cost Item	Basis Year:	2007	(x 1.0952) 2008
Capital Costs Items			
Combustor		\$16,540	\$18,114
Freight and Design		\$1,500	\$1,643
Auto Ignitor		\$1,500	\$1,643
Surveillance System		\$3,600	\$3,943
Instrumentation			
Auxiliary Equipment			
Combustor Installation		\$6,354	\$6,959
Indirect Installation			
Sales Tax			
Storage Vessel Retrofit			
Subtotal			
Contingency			
Total Capital Investment		\$29,494	\$32,302
Annual Costs Items			
Operating Labor	labor hours	130	130
	labor rate	\$33.51	\$36.70
	supervisory hours	19.5	19.5
	supervisory rate	\$52.85	\$57.88
Operating Labor		\$5,387	\$5,900
Maintenance Labor	labor hours	130	130
	labor rate	\$33.51	\$36.70
	supervisory hours	0	0
	supervisory rate	\$52.85	\$57.88
Maintenance Labor		\$4,356	\$4,771
Subtotal Labor		\$9,743	\$10,671
Maintenance		\$2,000	\$2,190
Pilot Fuel		\$1,897	\$2,078
Make-up gas			
Data Management		\$1,000	\$1,095
	interest rate (%)	7%	7%
	equipment life (years)	15	15
	CRF	0.1098	0.1098
Capital Recovery (\$/yr)		\$3,238	\$3,547
Overhead			
Administrative Charges			
Property Taxes			
Insurance			
Total Annual Costs (\$/yr)		\$17,878	\$19,580
Control Threshold (tpy)		6	6
	control efficiency (%)	95%	95%
	emission reductions (tpy)	5.7	5.7
Cost Effectiveness (\$/ton)		\$3,136	\$3,435

EPA evaluated costs in the draft CTG for control of vapors from storage vessels in a similar manner as for NSPS OOOO, with the costs adjusted to a 2012 basis. EPA referenced a more recent version of the Colorado Initial Economic Impact Analysis (2013 Colorado EIA)²⁶ for most of the costs, but relied on the cost given in the 2012 TSD for the surveillance system, with an adjustment of 5.69% to account for changes in cost from 2008 to 2012. In that the draft CTG is applicable to existing storage vessels, and these storage vessels would require certain alterations to accommodate the routing of vapors to a control device, EPA added a cost item in the draft CTG for "Storage Vessel Retrofit." The costs in the draft CTG are summarized in Table 13-2, with a comparison to the costs in the 2012 TSD.

13.1.2 Numerical Errors In The Draft CTG Cost Evaluation

There appear to be two numerical errors in the draft CTG cost data. One is an omission of the non-labor component of maintenance and the other is an understatement of the cost of fuel to maintain the pilot flame. The impacts on cost-effectiveness of these two numerical errors are shown in Table 13-3.

Omission of the Non-Labor Component of Maintenance.

Table 1 of the 2013 Colorado EIA includes a cost of \$2,197 for Maintenance. This should have been understood as maintenance materials, corresponding to the \$2,000 in the 2008 Colorado EIA. As in the 2012 TSD, the Maintenance line item from the Colorado EIA should have been included as a maintenance cost in addition to the cost of maintenance labor.

Miscalculation of the Cost of Pilot Fuel.

The cost of Pilot Fuel is given in Table 1 of the 2013 Colorado EIA as \$768, which is substantially lower than the value of \$2,078 from the 2012 TSD. A footnote to Table 1 of the 2013 Colorado EIA indicates that the cost was based on a fuel cost of \$3.41/ million Btu (MMBtu). A typical high heat value (HHV) for natural gas is 1,028 MMBtu/ million scf (MMscf), or 1.028 MMBtu/ thousand scf. The cost per thousand scf would then be $3.41 \times 1.028 = \$3.51$ / thousand scf. Various sources give values of pilot fuel consumption ranging from 50 scf/hr²⁷ to 70 scf/hr.²⁸ At the lower consumption rate of 50 scf/hr, this would correspond to $3.51 \times 50 \times 8760 / 1000 = \$1,537$ /year, or twice the cost given in the 2013 Colorado EIA.

Further, this pilot fuel cost (said to be based on the Henry Hub Spot Price in August 2013) of \$3.41/MMBtu does not match the assumed VRU cost offset of recovered gas that is priced at \$4/Mcf (equivalent to \$3.89/MMBtu). While this would not result in a significant increase in the cost of control for a single storage vessel, it could when amplified to include the cost of controls for the entire industry.

²⁶ Initial Economic Impact Analysis for proposed revisions to Colorado Air Quality Control Commission Regulation Number 7, "Emissions of Volatile Organic Compounds," submitted with Request for Hearing Documents on November 15, 2013.

²⁷ Wyoming Department of Environmental Quality, Division of Air Quality, Proposed Revisions to the Chapter 6, Section 2, Oil and Gas Production Facilities Permitting Guidance, Technical Support Document, September 2013.

²⁸ U.S. Environmental Protection Agency, "EPA Air Pollution Control Cost Manual," EPA/452/B-02-001, Sixth Edition, January 2002. <http://www.epa.gov/ttn/catc/dir1/cs3-2ch1.pdf>

Table 13-2. NSPS Subpart OOOO versus Draft CTG Cost Analyses for Combustor for Storage Vessels

		NSPS 2012 TSD Table 7-5 2008	Draft CTG Table 4-5 2012
Cost Item	Basis Year:		
Capital Costs Items			
	Combustor	\$18,114	\$18,169
	Freight and Design	\$1,643	\$1,648
	Auto Ignitor	\$1,643	\$1,648
	Surveillance System	\$3,943	\$3,805
	Instrumentation		
	Auxiliary Equipment		
	Combustor Installation	\$6,959	\$6,980
	Indirect Installation		
	Sales Tax		
	Storage Vessel Retrofit		\$68,736
	Subtotal		
	Contingency		
Total Capital Investment		\$32,302	\$100,986
Annual Costs Items			
Operating Labor	labor hours	130	130
	labor rate	\$36.70	\$32.00
	supervisory hours	19.5	19.5
	supervisory rate	\$57.88	\$51.03
	Operating Labor	\$5,900	\$5,155
Maintenance Labor	labor hours	130	130
	labor rate	\$36.70	\$32.00
	supervisory hours	0	0
	supervisory rate	\$57.88	\$51.03
	Maintenance Labor	\$4,771	\$4,160
Subtotal Labor		\$10,671	\$9,315
	Maintenance	\$2,190	
	Pilot Fuel	\$2,078	\$768
	Make-up gas		
	Data Management	\$1,095	\$1,057
	interest rate (%)	7%	7%
	equipment life (years)	15	15
	CRF	0.1098	0.1098
	Capital Recovery (\$/yr)	\$3,547	\$11,088
	Overhead		
	Administrative Charges		
	Property Taxes		
	Insurance		
Total Annual Costs (\$/yr)		\$19,580	\$22,228
Control Threshold (tpy)		6	6
	control efficiency (%)	95%	95%
	emission reductions (tpy)	5.7	5.7
Cost Effectiveness (\$/ton)		\$3,435	\$3,900

Table 13-3. Draft CTG Cost Analyses for Combustor for Storage Vessels –Corrected for Numerical Errors

Cost Item	Basis Year:	Draft CTG	Draft CTG
		Table 4-5	<i>corrected</i> Table 4-5
Capital Costs Items		2012	2012
Combustor		\$18,169	\$18,169
Freight and Design		\$1,648	\$1,648
Auto Ignitor		\$1,648	\$1,648
Surveillance System		\$3,805	\$3,805
Instrumentation			
Auxiliary Equipment			
Combustor Installation		\$6,980	\$6,980
Indirect Installation			
Sales Tax			
Storage Vessel Retrofit		\$68,736	\$68,736
Subtotal			
Contingency			
Total Capital Investment		\$100,986	\$100,986
Annual Costs Items			
Operating Labor	<i>labor hours</i>	130	130
	<i>labor rate</i>	\$32.00	\$32.00
	<i>supervisory hours</i>	19.5	19.5
	<i>supervisory rate</i>	\$51.03	\$51.03
Operating Labor		\$5,155	\$5,155
Maintenance Labor	<i>labor hours</i>	130	130
	<i>labor rate</i>	\$32.00	\$32.00
	<i>supervisory hours</i>	0	0
	<i>supervisory rate</i>	\$51.03	\$51.03
Maintenance Labor		\$4,160	\$4,160
Subtotal Labor		\$9,315	\$9,315
Maintenance			\$2,197
Pilot Fuel		\$768	\$1,537
Make-up gas			
Data Management		\$1,057	\$1,057
	<i>interest rate (%)</i>	7%	7%
	<i>equipment life (years)</i>	15	15
	<i>CRF</i>	0.1098	0.1098
Capital Recovery (\$/yr)		\$11,088	\$11,088
Overhead			
Administrative Charges			
Property Taxes			
Insurance			
Total Annual Costs (\$/yr)		\$22,228	\$25,194
Control Threshold (tpy)		6	6
	<i>control efficiency (%)</i>	95%	95%
	<i>emission reductions (tpy)</i>	5.7	5.7
Cost Effectiveness (\$/ton)		\$3,900	\$4,420

13.1.3 Omission Of Costs Identified In The EPA OAQPS Control Cost Manual

EPA maintains a Control Cost Manual which has the following stated purpose:

The objectives of this Manual are two-fold: (1) to provide guidance to industry and regulatory authorities for the development of accurate and consistent costs (capital costs, operating and maintenance expenses, and other costs) for air pollution control devices, and (2) to establish a standardized and peer reviewed costing methodology by which all air pollution control costing analyses can be performed.²⁹

The EPA Control Cost Manual, then, is expressly intended to provide guidance in the evaluation of the cost of control devices. The costs to be included in the evaluation of a flare as a control device are addressed in Section 3.2, Chapter 1 of the EPA Control Cost Manual. These costs include the following line items for Indirect Annual Costs:

- | | |
|--------------------------|---------------------------------------|
| - Overhead | 60% of total labor and material costs |
| - Administrative charges | 2% of Total Capital Investment |
| - Property tax | 1% of Total Capital Investment |
| - Insurance | 1% of Total Capital Investment |

EPA neglected these costs in both the 2012 TSD and the draft CTG, but has offered no rationale for doing so. The omission of these costs, then, appears to be arbitrary and capricious. The impact of these Indirect Annual Costs is shown below in Table 13-4.

13.1.4 Understatement Of Operating And Maintenance Hours

The EPA Control Cost Manual indicates an allowance of 630 hours per year for operation of a flare, and 0.5 hours per shift for maintenance of a flare. Assuming one shift per day, the estimated maintenance labor would be 182 hours. EPA, however, allowed just 130 hours per year for operating the device and another 130 hours per year for maintenance. In the 2012 TSD, EPA acknowledged the higher level of hours in the EPA Control Cost Manual, but reasoned that operating labor would be lower for these devices when used in the oil and natural gas production sector due to most of the sites being unmanned.³⁰ However, operating and maintenance hours would be increased for unmanned sites due to the travel time involved in getting personnel to the sites. It is, then, inappropriate to arbitrarily reduce estimated operating and maintenance hours for these facilities. The impacts of increasing the operating and maintenance hours to the levels indicated by the EPA Control Cost Manual are shown below in Table 13-5.

²⁹ U.S. Environmental Protection Agency, "EPA Air Pollution Control Cost Manual," EPA/452/B-02-001, Sixth Edition, January 2002. http://www3.epa.gov/ttnatcat1/dir1/c_allchs.pdf

³⁰ U.S. EPA, "Oil and Natural Gas Sector: Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution," Background Supplemental Technical Support Document for the Final New Source Performance Standards, April 2012; page 7-4.

Table 13-4. Draft CTG Cost Analyses for Combustor for Storage Vessels – Corrected Plus Indirect Annual Costs

Cost Item	Basis Year:	Draft CTG	Draft CTG
		<i>corrected</i>	<i>corrected, plus Indirect Annual Costs</i>
		Table 4-5 2012	Table 4-5 2012
Capital Costs Items			
	Combustor	\$18,169	\$18,169
	Freight and Design	\$1,648	\$1,648
	Auto Ignitor	\$1,648	\$1,648
	Surveillance System	\$3,805	\$3,805
	Instrumentation		
	Auxiliary Equipment		
	Combustor Installation	\$6,980	\$6,980
	Indirect Installation		
	Sales Tax		
	Storage Vessel Retrofit	\$68,736	\$68,736
	Subtotal		
	Contingency		
Total Capital Investment		\$100,986	\$100,986
Annual Costs Items			
Operating Labor	<i>labor hours</i>	130	130
	<i>labor rate</i>	\$32.00	\$32.00
	<i>supervisory hours</i>	19.5	19.5
	<i>supervisory rate</i>	\$51.03	\$51.03
	Operating Labor	\$5,155	\$5,155
Maintenance Labor	<i>labor hours</i>	130	130
	<i>labor rate</i>	\$32.00	\$32.00
	<i>supervisory hours</i>	0	0
	<i>supervisory rate</i>	\$51.03	\$51.03
	Maintenance Labor	\$4,160	\$4,160
Subtotal Labor		\$9,315	\$9,315
	Maintenance	\$2,197	\$2,197
	Pilot Fuel	\$1,537	\$1,537
	Make-up gas		
	Data Management	\$1,057	\$1,057
	<i>interest rate (%)</i>	7%	7%
	<i>equipment life (years)</i>	15	15
	<i>CRF</i>	0.1098	0.1098
	Capital Recovery (\$/yr)	\$11,088	\$11,088
	Overhead		\$6,907
	Administrative Charges		\$2,020
	Property Taxes		\$1,010
	Insurance		\$1,010
Total Annual Costs (\$/yr)		\$25,194	\$36,141
Control Threshold (tpy)		6	6
	<i>control efficiency (%)</i>	95%	95%
	<i>emission reductions (tpy)</i>	5.7	5.7
Cost Benefit (\$/ton)		\$4,420	\$6,340

**Table 13-5. Draft CTG Cost Analyses for Combustor for Storage Vessels –
Corrected Plus Indirect Annual Costs and Full Labor Hours**

<u>Cost Item</u>	<u>Basis Year:</u>	Draft CTG	Draft CTG
		<i>corrected, plus Indirect Annual Costs</i>	<i>corrected, plus Indirect Annual Costs and Full Labor Hours</i>
		<u>Table 4-5</u>	<u>Table 4-5</u>
		2012	2012
Capital Costs Items			
Combustor		\$18,169	\$18,169
Freight and Design		\$1,648	\$1,648
Auto Ignitor		\$1,648	\$1,648
Surveillance System		\$3,805	\$3,805
Instrumentation			
Auxiliary Equipment			
Combustor Installation		\$6,980	\$6,980
Indirect Installation			
Sales Tax			
Storage Vessel Retrofit		\$68,736	\$68,736
Subtotal			
Contingency			
Total Capital Investment		\$100,986	\$100,986
Annual Costs Items			
Operating Labor	<i>labor hours</i>	130	630
	<i>labor rate</i>	\$32.00	\$32.00
	<i>supervisory hours</i>	19.5	94.5
	<i>supervisory rate</i>	\$51.03	\$51.03
Operating Labor		\$5,155	\$24,982
Maintenance Labor	<i>labor hours</i>	130	182
	<i>labor rate</i>	\$32.00	\$32.00
	<i>supervisory hours</i>	0	0
	<i>supervisory rate</i>	\$51.03	\$51.03
Maintenance Labor		\$4,160	\$5,824
Subtotal Labor		\$9,315	\$30,806
Maintenance		\$2,197	\$2,197
Pilot Fuel		\$1,537	\$1,537
Make-up gas			
Data Management		\$1,057	\$1,057
	<i>interest rate (%)</i>	7%	7%
	<i>equipment life (years)</i>	15	15
	<i>CRF</i>	0.1098	0.1098
Capital Recovery (\$/yr)		\$11,088	\$11,088
Overhead		\$6,907	\$19,802
Administrative Charges		\$2,020	\$2,020
Property Taxes		\$1,010	\$1,010
Insurance		\$1,010	\$1,010
Total Annual Costs (\$/yr)		\$36,141	\$70,527
Control Threshold (tpy)		6	6
	<i>control efficiency (%)</i>	95%	95%
	<i>emission reductions (tpy)</i>	5.7	5.7
Cost Benefit (\$/ton)		\$6,340	\$12,373

13.2 The Emissions Threshold For Controlling Existing Storage Vessels Should Be Higher Than 6 TPY VOC

In section 4.4 of the draft CTG, EPA explains that 6 tpy of VOC was selected as the applicability threshold because this level was found to be “a cost effective applicability threshold for requiring 95 percent control of VOC emissions from existing storage vessels”. Table 13-2 through Table 13-4 showed the cost effectiveness calculation at an emissions level of 6 tpy of VOC.

However, as was demonstrated in section 13.1, EPA's cost estimate for combustors for storage vessels was flawed. After adjusting for these flaws, the cost effectiveness values change accordingly for storage vessel emitting 6 tpy VOC.

As was shown in Table 13-4, the cost effectiveness for a 6 tpy VOC storage vessel is estimated to be \$6,340 when the Indirect Annual Costs from the EPA Control Cost Manual are taken into account. This is greater than the value of \$5,700/ton that EPA deemed to be unacceptably high in related rulemaking.³¹ When the Indirect Annual Costs from the EPA Control Cost Manual are taken into account, it appears that a control threshold of 8 tpy would be more appropriate than a threshold of 6 tpy. This is shown in Table 13-6.

Table 13-6 Cost Effectiveness Evaluation for Combustor for Storage Vessels – Corrected Plus Indirect Annual Costs

Total Annual Costs (\$/yr)	\$36,141	\$36,141
Control Threshold (tpy)	6	8
<i>control efficiency (%)</i>	95%	95%
<i>emission reductions (tpy)</i>	5.7	7.6
Cost Effectiveness (\$/ton)	\$6,340	\$4,755

Further, as was shown in Table 13-5, the cost per ton of emission reductions is shown to be \$12,373 for a 6 tpy VOC storage vessel when the full labor hours from the EPA Control Cost Manual. This is also greater than the value of \$5,700/ton that EPA deemed to be unacceptably high in a related rulemaking.³² When the full labor hours from the EPA Control Cost Manual are taken into account, it appears that a control threshold of 15 tpy would be more appropriate than a threshold of 6 tpy. This is summarized in Table 13-7.

Table 13-7. Cost Effectiveness Evaluation for Combustor for Storage Vessels – Corrected Plus Indirect Annual Costs and Full Labor Hours

Total Annual Costs (\$/yr)	\$70,527	\$70,527
Control Threshold (tpy)	6	15
<i>control efficiency (%)</i>	95%	95%
<i>emission reductions (tpy)</i>	5.7	14.25
Cost Benefit (\$/ton)	\$12,373	\$4,949

³¹ 78 FR 58429 (September 23, 2013).

³² 78 FR 58429 (September 23, 2013).

13.3 Adding Control To An Existing Storage Vessel To A Control Device Can Present A Safety Issue

Many existing storage vessels were not initially designed to route emissions to a control device. For these existing tanks, the integrity may not be able to withstand the back pressure from the closed vent system and control device. The high back pressure could result in tank damage or even rupture. Therefore, they will require changes to the tank, or full replacement of the tank, in order to handle the back pressure from the control device and closed vent system without damaging the tank. Most of the storage vessels in the oil and natural gas industry last only 10-15 years maximum and would eventually be subject to NSPS OOOOa due to routine replacement.

13.4 Adding Combustion Control To An Existing Storage Vessel May Cause Negative Environmental Impacts That Are More Significant Than The VOC Reductions

Combustion of gas from storage vessels not only destroys VOCs, it creates NO_x, CO, and CO₂ emissions. EPA acknowledges this on page 4-6 of the draft CTG, as they state that "Combustion and partial combustion of organic pollutants also created secondary pollutant including nitrogen oxides, carbon monoxide, sulfur oxides, carbon dioxide, and smoke/particulates." However, EPA did not attempt to quantify these impacts.

The precursors to ozone formation are both VOCs and NO_x. The net impact of ozone formation depends on the NO_x, VOCs, and sunlight for a particular location. As noted in EPA's Integrated Science Assessment for Ozone³³, "Duncan et. al 2010"³⁴ found that O₃ [ozone] formation over most of the U.S. became more sensitive to NO_x over most of the U.S. from 2005 to 2007 largely because of decreases in NO_x emissions." The ozone formation over most of the U.S. is NO_x limited; therefore, in most areas of the country adding more NO_x could result in increased ozone formation would be counterproductive to the point of CTGs to help reduce ozone formation. Analysis for particular areas could find that the net result of controlling storage vessels actually creates more ozone. EPA should allow the states to determine whether controlling storage vessels creates or reduces ozone prior to having to incorporate the RACT recommendations in this CTG into their SIPs through analysis of the air quality for the particular area.

13.5 EPA's Does Not Define "Maximum Daily Average Throughput"

Paragraph (a) of section A.1 of the model rule states that "The potential for VOC emissions must be calculated using a generally accepted model or calculation methodology, based on the maximum average daily throughput determined for a 30-day period of production prior to the applicable emission determination deadline established by your regulatory authority". API agrees with this approach, except that the term "maximum daily throughput" is contradictory from both a plain text and mathematical point of view. **API suggests that the following definition be added to section A.6 of the model rule.**

³³ US EPA. 2013a. "Integrated Science Assessment for Ozone and Related Photochemical Oxidants (Final)." EPA/600/R-10/076F.

³⁴ Duncan, BN; Yoshida, Y; Olson, JR; Sillman, S; Martin, RV; Lamsal, L; Hu, Y; Pickering, KE; Retscher, C; Allen, DJ. (2010). Application of OMI observations to a space-based indicator of NO_x and VOC controls on surface ozone formation. Atmos Environ 44: 2213-2223. <http://dx.doi.org/10.1016/j.atmosenv.2010.03.010>

Maximum average daily throughput means the daily average throughput during the 30-day PTE evaluation period that represents steady-state conditions.

13.6 The Lack Of An Alternate Uncontrolled VOC Emission Standard In The CTG Model Rule Leads To Existing Storage Vessels Being Controlled Although Emissions Have Declined Below The Applicability Threshold

Under NSPS subpart OOOO and proposed subpart OOOOa, EPA has allowed for the removal of storage vessel control devices once emissions are below 4 TPY (§60.5395(d)(2) and proposed §60.5395a(a)(3)). In the proposed amendments to subpart OOOO published on April 12, 2013 (78 FR 22126), EPA provided extensive rationale for why it was justified to include this alternative limit for storage vessels.

However, the draft CTG model rule does not include this alternative. API believes that if BSER, as required for NSPS, includes this alternative, then certainly the less stringent RACT should also include it. EPA must either include this alternative 4 TPY limit in the CTG RACT recommendation and model rule, or justify why it is not included.

From a cost effectiveness standpoint, EPA stated that below 4 tpy of VOCs controlling storage vessels was not cost effective under NSPS subpart OOOO, which was published on September 23, 2013. Following are quotes from the preamble for these final amendments (78 FR 58429).

“... our analysis indicates that the cost of controls for each storage vessel affected facility at a VOC emission rate of 4 tpy is approximately \$5,100 per ton. This cost increases to approximately \$6,900 per ton at an emission rate of 3 tpy, and to approximately \$10,000 per ton at 2 tpy. For comparison, we note that, in a previous NSPS rulemaking [72 FR 64864 (November 16, 2007)], we had concluded that a VOC control option was not cost effective at a cost of \$5,700/ton, which calls into question the cost effectiveness of continuing control of storage vessel affected facilities at an emission rate below 4 tpy.”

“In light of the cost-effectiveness, the secondary environmental impacts and the energy impacts, we have concluded that the BSER for reducing VOC emissions from storage vessel affected facilities is not represented by continued control when their sustained uncontrolled emission rates fall below 4 tpy.”

For RACT, it would definitely not be cost effective below 4 tpy.

13.7 “Well Completion Vessel” Is Not Defined In The CTG Model Rule, Which Could Lead To Confusion

In section A.6 of the model rule, the definition of “storage vessel” includes the following sentence, “A well completion vessel that receives recovered liquids from a well after startup of production following flowback for a period which exceeds 60 days is considered a storage vessel under this rule.” This sentence contains the following terms, which are not defined in section A.6,

- “well completion vessel”,
- “recovered liquids”,
- “well”,

- “startup of production”, and
- “flowback”.

The omission of these related definitions makes the applicability of RACT toward well completion vessels unclear.

Since the CTG model rule will apply to existing sources only, API believes that well completion vessels would not be subject, as they would be associated with new wells and regulated under the existing NSPS subpart OOOO and proposed OOOOa as potential new, modified, or reconstructed storage vessel affected facilities.

However, in order to avoid confusion, API recommends that the following definitions be added to section A.6 of the model rule. These definitions are consistent with the existing NSPS subpart OOOO and proposed subpart OOOOa (§60.5430 and §60.5430a).

Flowback means the process of allowing fluids and entrained solids to flow from a well following a treatment, either in preparation for a subsequent phase of treatment or in preparation for cleanup and returning the well to production. The term flowback also means the fluids and entrained solids that emerge from a well during the flowback process. The flowback period begins when material introduced into the well during the treatment returns to the surface following hydraulic fracturing or refracturing. The flowback period ends when either the well is shut in and permanently disconnected from the flowback equipment or at the startup of production. The flowback period includes the initial flowback stage and the separation flowback stage.

Recovered liquids means any crude oil, condensate or produced water recovered through the separation process during flowback.

Startup of production means the beginning of initial flow following the end of flowback when there is continuous recovery of salable quality gas and separation and recovery of any crude oil, condensate or produced water.

Well means a hole drilled for the purpose of producing oil or natural gas, or a well into which fluids are injected.

Well completion vessel means a vessel that contains flowback during a well completion operation following hydraulic fracturing or refracturing. A well completion vessel may be a lined earthen pit, a tank or other vessel that is skid-mounted or portable. A well completion vessel that receives recovered liquids from a well after startup of production following flowback for a period which exceeds 60 days is considered a storage vessel under this rule.

13.8 EPA Has Not Justified The Continuous Parameter Monitoring Requirements In The CTG

In section A.4(c) of the model rule, continuous parameter monitoring and the comparison of daily average parameter monitoring results against site-specific maximum or minimum values established during the performance test are required for storage vessels. As discussed earlier in Section 9.2.1, these NESHAP-level monitoring requirements are not appropriate for RACT. EPA has not justified these requirements and must not include them in the final CTG model rule.

However, for storage vessels the monitoring requirements in the RACT model rule are even more egregious as these RACT requirements are considerably more stringent than the BSER requirements proposed for NSPS subparts OOOO and OOOOa. For those NSPS, EPA did not propose any parameter monitoring for storage vessel control devices. RACT-level requirements should, by definition, generally be less stringent than BSER. In this case, EPA has included RACT monitoring requirements for storage vessel control device monitoring that are orders of magnitude more stringent than the BSER requirements in the NSPS. They must be removed from the model rule. **API recommends the monitoring requirements for storage vessels be consistent with those for NSPS subpart OOOOa.**

14.0 PNEUMATIC CONTROLLERS

14.1 EPA Must Clarify That Continuous Bleed Pneumatic Controllers With Bleed Rates Less Than 6 Standard Cubic Feet Per Hour Are Not Subject To Any Requirements Under The RACT Recommendation And Model Rule For Pneumatic Controllers From The Wellhead To The Natural Gas Processing Plant Or Point Of Custody Transfer To An Oil Pipeline

The CTG in section 6 proposes that each continuous bleed natural gas-driven pneumatic controllers is the affected facility for RACT by stating the following:

“RACT for Each Single Continuous Bleed Natural Gas-Driven Pneumatic Controller Located from the Wellhead to the Natural Gas Processing Plant or Point of Custody Transfer to an Oil Pipeline: Each pneumatic controller, which is a single continuous bleed natural gas-driven pneumatic controller must have a natural gas bleed rate less than or equal to 6 scfh (unless there are functional needs, including but not limited to responsetime, safety and positive actuation, requiring a bleed rate greater than 6 scfh).”

Furthermore, the CTG states on page 6-3: “It is assumed intermittent, or no-bleed, controllers meet the definition of a low-bleed.”

While API appreciates EPA recognizing the inherent low emissions of intermittent vent controllers, this statement could also be interpreted that for the purpose of this CTG that intermittent vent controllers should be considered continuous low bleed controllers.

Section B.1 provides the applicability requirements of the model rule to pneumatic controllers. Specifically for pneumatic controllers located from the wellhead to the natural gas processing plant or point of custody transfer to an oil pipeline, paragraph B.1(b) says that the VOC control requirements apply to each “single continuous bleed natural gas-driven controller operating at a natural gas bleed rate greater than 6 standard cubic feet per hour.”

Paragraph B.2(c) then requires the following:

(c)(1) Each pneumatic controller subject to VOC emissions control requirements at a location between the wellhead and a natural gas processing plant or the point of custody transfer to an oil pipeline must have a bleed rate less than or equal to 6 standard cubic feet per hour.

(2) Each pneumatic controller subject to VOC emission control requirements at a location between the wellhead and a natural gas processing plant or the point of custody transfer to an oil pipeline must be tagged with the date that the pneumatic controller is required to comply with the model rule (as established by your regulatory authority) that allows traceability to the records for that controller as required in section B.5(a)(3).

Section B.1(b) is very clear that the rule only applies to pneumatic continuous bleed natural gas-driven controller operating at a natural gas bleed rate greater than 6 standard cubic feet per hour. Given the above citations from section 6, it can be interpreted to mean that all existing pneumatic controllers are subject to RACT in the CTG. However, the model rule for pneumatic controllers in Appendix B states that continuous high bleed controllers are the affected facility which is consistent with NSPS but inconsistent with the stated RACT in section 6. API recommends correcting its RACT statement in section 6 to clearly indicate that RACT applies only to continuous high bleed gas-driven pneumatic controllers and that RACT applies only to controllers constructed before August 12, 2011, the proposal date for NSPS which defines new sources.

If instead it is EPA's intent to apply RACT to all pneumatic controllers, this will setup the potential for an operator choosing to delay action until after a RACT rule becomes effective rather than take early action. While RACT is mainly for lowering emissions using emissions control, emission reduction from high bleed pneumatic controllers often requires replacement or when feasible a pilot valve retrofit to make them low bleed or intermittent vent. The cost of retrofit may also be considered a reconstruction of the controller as well in many instances. Replacing a controller with a new one or reconstructing it, will make the controller a new source and no longer an existing source, so would then be subject to NSPS not RACT. If this new replacement or reconstruction occurs before the RACT rule is effective, it could become an existing source subject to all the RACT requirements. Even where existing low bleeds and intermittent vents are already used, an operator may replace them anyway just to ensure being considered a new source rather than an existing source if this CTG doesn't clearly define the dates that separate new sources from existing sources. However, these issues are resolved if RACT applies as we recommend; only high bleed controllers are affected facilities, and existing sources are defined as construction prior to the proposal dates of Subpart OOOO or OOOOa as appropriate.

API disagrees with the CTG recommendation that all controllers should be replaced as described in section 6.5 of the RACT.

The CTG should only stipulate high bleed natural gas pneumatic controllers must be replaced, unless justifiable as consistent with the NSPS. Replacing an existing high bleed controller with a new low bleed controller or intermittent controller would cause the new controller be covered under NSPS and would not be subject to an existing source RACT rule.

API requests that EPA acknowledge this fact and provide a clear statement that continuous bleed pneumatic controllers with bleed rates less than 6 standard cubic feet per hour are not subject to any requirements under the RACT recommendation and Model Rule for pneumatic controllers from the wellhead to the natural gas processing plant or point of custody transfer to an oil pipeline.

15.0 PNEUMATIC PUMPS

15.1 Introduction

API appreciates EPA's efforts to simplify the guidelines for pneumatic pump control requirements as well as EPA's recognition that there are limited scenarios for which control of pneumatic pumps will be cost effective. However, from review of proposal and supporting documents, it is clear that EPA did not appreciate some key technical issues as well as some key costs that would be incurred if the rule were finalized as proposed.

Each of these points is expanded upon in this section, but API recommends that the following exemptions should be added to the proposed CTGs for pneumatic pumps:

- Technical Feasibility – If it is not technically feasible to connect a pump to an existing on site control device, there should be an exemption.
- Small or limited use emission pumps (< 53 thousand scf per year emission rate, which is equivalent to a continuous 6 scf/hour emission rate) rate or any pump operating less than 90 days per year).

Additionally, EPA has proposed overly burdensome and costly testing and monitoring requirements for control systems used to control pumps. If control requirements are retained for any types of pneumatic pumps, the model rule should eliminate testing, monitoring, and recordkeeping requirements for the control device that are triggered solely due to the connection of a pneumatic pump exhaust to the closed vent system or control device. Alternatively, EPA should only require control of pumps when an existing NSPS OOOO/OOOOa control device which is already subject to the same requirements as in the proposed rule is present.

Finally, for many technical reasons, API believes it is important that EPA should clarify in the CTGs that the presence of a heater or boiler should not be considered to be equivalent to presence of control device.

Given that the CTGs mirror the requirements under the proposed NSPS OOOOa, API also appreciates EPA's discussion in the NSPS preamble that recognizes the limitations of solar powered pumps, the typical unavailability of electricity at well sites and other remote sites, and the fact that gas-assist lean-glycol recirculation pumps on glycol dehydration units are not pneumatic pumps. API agrees with EPA's approach of defining the affected source as only pumps using natural gas as the pneumatic power source and located at a site with an existing control device. API also agrees with EPA's approach of only requiring control of new, modified or reconstructed pneumatic pumps on sites with existing control devices (combustion control or vapor recovery). However, API has several important issues with the details of the CTG as proposed.

- EPA inappropriately requires an existing control device/system to meet the closed-vent-system, performance testing, monitoring, and recordkeeping requirements of NSPS OOOOa. This is exacerbated by the proposal to require the same measures as for wet-seal centrifugal compressor affected source control devices.
- API believes the capital cost estimate EPA made is low and that several significant cost items are left out of the cost analysis.
- API believes the estimated emissions per pump for diaphragm type pumps is overestimated and the equal proportional split between piston type chemical pumps and diaphragm pumps is incorrect. Due to the limited time available for comment, API did not have time survey members adequately, but there are many more piston pumps installed than diaphragm pumps.
- Because the cost is underestimated and the emissions overestimated, the control actions required by the regulation are not cost effective in many instances.

- EPA failed to recognize important design and process factors that could render routing a pneumatic pump to an existing control device technically infeasible or unsafe.
- Some details of the model rule language are unclear or not defined fully.

Each of these issues is discussed in more detail in the following sections.

15.2 Control Device And Closed Vent System Requirements

As written, control devices not subject to Subpart OOOO or OOOOa would be required to be used to control emissions from pneumatic pumps. It is not clear if this was EPA's intent in writing the model rule. From the lack of consideration for performance requirements, performance testing, closed vent system monitoring, recordkeeping, and reporting compliance costs in the economic analysis, it appears that EPA did not intend for control devices not subject to Subpart OOOO or Subpart OOOOa to be pulled into the monitoring, reporting, and recordkeeping requirements under the CTGs. If EPA maintains a requirement to route higher emitting pneumatic pumps to existing control devices, this should not trigger the performance specifications, performance testing, monitoring, closed vent system monitoring, recordkeeping, and reporting requirements for the control device if it is not already subject to regulation under Subpart OOOO or Subpart OOOOa. This change from the proposed approach would address one of the two critical cost elements ignored by EPA when assessing the cost of control; specifically, the costs of testing, monitoring, reporting, and recordkeeping requirements.

EPA should also provide for routing of pump exhaust from glycol heat medium pumps (typically diaphragm type pumps) to a controlled tank or knock-out drum prior to the control device to provide for buffering the intermittent flow when the pump exhaust stroke occurs. This would provide for more stable flow to the control device and piping system and simplify connecting a pneumatic pump exhaust to an existing control system.

The draft CTG unnecessarily and inappropriately requires existing control devices and closed vent systems to comply with the full suite of requirements identical to those specified for control devices and systems on centrifugal compressor affected facilities degassing tank vents if a new, modified, or reconstructed pneumatic pump affected source is routed to the control device. EPA failed to recognize that the majority of the existing control devices and closed vent systems installed on sites where pneumatic pumps are likely to be used will not already be subject to Subpart OOOO requirements let alone those for centrifugal compressor affected facilities. Since centrifugal compressors are rarely used in the production segment and new, modified, or reconstructed centrifugal compressors in the gathering & collection, processing, and transportation & storage segments are almost certainly dry seal equipped, the probability is near zero that an existing control device on well sites or remote facilities would already be subject to the centrifugal compressor affected source requirements for closed vent systems and control devices. Most already installed or newly installed control devices/systems and closed vent systems will predate the requirements of Subpart OOOO or be installed pursuant to State regulations or enforceable permit conditions that limit emissions below the thresholds for applicability of Subpart OOOO. Even where an existing control device and closed vent system has applicable requirements under Subpart OOOO, these are almost certainly those requirements for control devices and closed vent systems installed on storage tank affected sources rather than centrifugal compressor affected sources and thus would have new requirements under the proposed rule. This could subject an individual control device and closed vent system to a dual set of requirements if the proposed rule is finalized as proposed. Note that this discussion focuses

on enclosed combustion control devices as sites with VRU's are likely to have electricity and hence no pneumatic pump affected sources.

By requiring existing closed vent systems and control devices to comply with the specified requirements listed in sections D.1, D.2, E.1, and E.2 of the draft CTG retroactively applies unnecessary, burdensome, and costly requirements to existing control devices and systems that were not designed, installed, or intended to comply with these requirements. Note also that none of the additional costs are included in EPA's analysis of the reasonableness of controlling pneumatic pump affected sources and the additional costs are likely to render such control not reasonable - cost analysis details are presented in a separate section of these comments.

- Section D.1 and D.2: An existing closed vent system may not be designed or constructed to meet the standard of "no detectable emissions" specified. Again, this may force retrofit or replacement of the existing piping system to enable meeting the "no detectable emissions" requirement.
- Section E.1: Existing control devices and the piping to them are not likely to have the necessary ports installed to enable performance testing as specified and would have to be taken offline in order to retrofit them if retrofit is even possible.
- Section E.2: Existing control devices are unlikely to have all of the monitoring instruments and capabilities required for continuous compliance demonstration as required and these would have to be retrofitted to the control device. Again, retrofit may not be possible which would leave an operator with no avenue to comply without installing a new control device which EPA already found to be not reasonable from a control cost standpoint. Additionally, the data monitoring, logging and averaging required under E.2.c would require either installation of an entirely new monitoring system or tying the monitoring devices into an existing automation system programmable logic controller (PLC) which may not have the number of input ports necessary nor have the memory and computing power necessary. Due to the typical lack of electrical power, the installation of a monitoring system would also require installation of a solar power system with the necessary power to operate the system and the necessary battery back-up to assure adequate data recovery.

Requiring control devices and covered vent systems, where a pneumatic pump affected source is routed to them, to comply with the performance testing, continuous monitoring, and associated requirements of the draft CTG is not necessary. The exhaust from a pneumatic pump affected source is the same natural gas used for the pilot flame in a combustion control device and as fuel for a boiler or heater. It is not difficult to combust and should not require the same rigor of demonstration for more difficult to combust compounds. In general, the low molecular weight straight chain aliphatic hydrocarbons that characterize the natural gas industry, including associated gas, are easy to combust.

To address the issues regarding retroactive application of the requirements in sections D and E of the CTGs to existing control devices and closed vent systems not already subject to the requirements proposed, API recommends EPA take one of the following approaches.

- Maintain the current definition of pneumatic pump affected source and require that the existing control device and closed vent system comply with whatever existing requirements for testing, monitoring, and reporting exist for the particular site/control device and closed vent system.

-or-

- Redefine the pneumatic pump affected source as only those new, modified, or reconstructed natural gas powered pneumatic pumps installed at a site with an existing control device that is already subject to the requirements contained in §60.5410a, §60.5411a, §60.5412a, §60.5413a, §60.5415a, §60.5416a, and §60.5417a proposed in the rule.
- To assure the integrity of the newly installed piping routing a new, modified, or reconstructed pneumatic pump affected source to an existing closed vent system or directly to the control device EPA could require an annual leak inspection with an Optical Gas Imaging camera for the newly installed piping to an existing control device or closed vent system.

15.3 Technical Basis For RACT Recommendation

15.3.1 EPA Underestimated The Cost Of The Proposed Control Strategy Which Renders Is Not Cost Effective In Many Situations

In the cost analysis for the proposed control strategy for pneumatic pumps, EPA incorrectly only listed a one-time capital cost impact of \$2,000 for the design and installation of piping to route vapors from the exhaust of a pneumatic pump to an existing control device. This value was based upon Natural Gas Star program data.³⁵ Using a 7% interest rate, EPA estimated the annualized cost of controlling a pneumatic pump at \$285/year. This value is too low and does not include significant cost items required by the rule. As an example, EPA assumed a cost of \$23,252 for tying a wet-seal centrifugal compressor seal-oil degassing tank into an existing control device. (See Section 8.4.4.3 of Technical Support Document for NSPS Subpart OOOOa and Table 5-8 in the draft CTG document.) The low pressure nature of both pneumatic pump exhaust and a seal-oil degassing tank are similar. Unfortunately, the discussion of pneumatic pump control and seal-oil degassing control is not detailed enough to understand the difference in EPA's cost estimates.

API believes the average capital cost (inclusive of engineering) that would be incurred for design evaluation, designing, and construction of the piping to tie a pneumatic pump into an existing control device/system would be closer to \$5,800 and would vary considerably from site to site.

Following are the details of API's initial capital cost estimate.

- Collecting the site specific information on an existing control device/system and performing an engineering evaluation of the ability to safely and technically add pump exhaust gas to the control device/system. 8 hours of engineering time at \$185 per hour = \$1480.
- Evaluating the specific pump's ability to tolerate the exhaust backpressure necessary to route to the existing control device/system; designing the piping necessary to route a pump exhaust to the control device/system; specifying materials, connection points, and connection types for routing a pump exhaust to the control device/system; and writing a work-order and procedure for connecting. Eight (8) hours of engineering time @ \$185 per hour = \$1480.

³⁵ <http://www.epa.gov/gasstar/documents/pipeglycoldehydratorovru.pdf>.

- Ordering and collecting materials for installing the piping, commissioning a contractor to perform the work, and overseeing the work. Six (6) hours of construction specialist time at \$140 per hour = \$840.
- Travel to the site, installation of the piping for tie-in, verification of the proper functioning of the tie-in and travel from the site. One day of a contract construction crew time at \$2,000 per day = \$2,000.

Utilizing EPA's assumed 7% interest rate, this equates to an annualized initial capital cost of \$826 rather than EPA's value of \$285.

In addition to underestimating the capital costs of routing the emissions to a control device, EPA did not consider other significant initial and reoccurring costs that would be incurred. The draft CTG requires an existing control device and closed vent system with a pneumatic pump routed to them to comply with the same performance testing, closed vent system, continuous monitoring, and recordkeeping and reporting requirements applicable to closed vent systems and control devices specified for centrifugal compressor affected facilities. The majority of the existing control devices and closed vent systems installed on sites where pneumatic pumps are likely to be used will not already be subject to Subpart OOOO requirements let alone those for centrifugal compressor affected facilities. The probability is near zero that an existing control device subject to the centrifugal compressor affected source requirements for closed vent systems and control devices will be on a site where a pneumatic pump source is located.

Most already installed or newly installed control devices/systems and closed vent systems will predate the requirements of Subpart OOOO or be installed pursuant to State regulations or enforceable permit conditions that limit emissions below the thresholds for applicability of Subpart OOOO. As such, costs not included in EPA's analysis are:

- The costs for an initial M21 demonstration that the closed vent system, at a site not already subject to the requirements under Subpart OOOO, is operating with no detectable emissions.
- The costs for initial and periodic performance testing of a control device that is not already subject to the required performance testing.
- The costs for monthly smoke inspections, including travel to and from the site for a trained visual smoke inspector.
- The costs for design, installation and maintenance of a parametric monitoring system.
- The recordkeeping and reporting cost.

The table below provides a more complete estimate of the costs associated with implementing the proposed rule requirements for pneumatic pumps. This table reflects the true cost of compliance with the CTG, including potential source testing, the need to install monitoring equipment, and the costs of conducting recurring inspection and equipment maintenance that would all be triggered by the proposed compliance requirements. Note that none of the performance testing exemptions listed in E.2(b) are considered. It should be noted that:

- Heaters with a design capacity of 44 MW (150 million BTU/hr) will not occur in the types of sites where pneumatic pump affected sources will be used

- Heaters used at well sites and other remote sites are likely to be seasonally used, or have intermittent firing dependent on heat demand and hence will not be able to accept the exhaust gas from a pneumatic pump as part or all of the fuel at all times
- As discussed previously, an existing control device is almost certainly not already subject to the performance testing requirements of the CTGs and hence not manufacture certified.
- Hazardous waste incinerators or hazardous waste fueled heaters will not occur at the type of sites where pneumatic pump affected sources will be used.

Table 15-1 Pneumatic Pump Control Cost Table

<i>Cost Item</i>	<i>Initial Cost</i>	<i>Annualized Cost</i>
Capital Costs (including engineering)	\$5,800	\$826
Option 1 Combustor Testing (repeat each 5 years)	\$6,000	\$1,200
Option 2 Process Heater Testing (repeat each 5 years)	\$6,000	\$1,200
Annual M21 & Visual CVS Inspection (Contractor or Trained Technician - 1/2 day with vehicle)	\$600	\$600
Monthly 15 min Smoke Check (trained operator inspection - \$160/month)		\$1,800
Flow Monitor, Thermal Dispersion Meter	\$5,000	\$712
CPMS - install measurement device and solar panel	\$9,000	\$1,282
CPMS - Annual Maintenance (contractor 1/2 day)		\$600
Annual CPMS Auditing (trained instrument technician complete with equipment and vehicle - 1/2 day)		\$600
<i>Scenario</i>	<i>Annualized Total</i>	
Sites with Affected Pneumatic Pumps & Combustor field performance test	\$6,908	
Sites with Manufacturer Certified Combustor (no performance test)	\$6,420	
Sites with Affected Pneumatic Pumps (& Process Heater performance test)	\$6,908	
Sites with existing Subpart OOOO or OOOOa affected storage tank with control device	\$3,308	
Sites with existing Subpart OOOO or OOOOa affected compressor with control device	\$826	

Table 15-2 Retrofit Costs for Control Devices

<i>Cost Item</i>	<i>Initial Cost</i>	<i>Annualized Cost</i>
<i>Retrofit control device with new or relocated ports to enable performance testing per Section F. (likely to occur)</i>	\$3,000	\$427
<i>Retrofit closed vent system to meet "no detectable emission" requirement per Section D.1(b) (less likely to occur)</i>	\$3,000	\$427

Table 15-3 Average Pneumatic Pump Emission Rate (Reproduced from TSD)

	Tons/year Methane	Tons/year VOC
Piston Pump	0.38	0.11
Diaphragm Pump	3.46	0.96

Combining the complete estimate of actual costs for routing a pneumatic pump affected source to an existing control device with the emission estimates for piston pumps and diaphragm pumps from the CTGs and Technical Support Document (repeated in proposed NSPS OOOOa rule preamble) yields the following tables of control cost per ton for VOC.

Table 15-4 Piston Pump Control Cost Effectiveness (assuming 8760 hours of annual pump operation)

		Single Pollutant Approach
	<i>Scenario</i>	VOC Only
Production Piston Pumps	<i>Sites with Affected Pneumatic Pumps & Combustor field performance test¹</i>	\$62,797
	<i>Sites with Manufacturer Certified Combustor (no performance test)</i>	\$58,362
	<i>Sites with Affected Pneumatic Pumps (& Process Heater performance test)¹</i>	\$62,797
	<i>Sites with existing subpart OOOO or OOOOa affected storage tank with control device</i>	\$30,070
	<i>Sites with existing subpart OOOO or OOOOa affected compressor with control device</i>	\$7,509

¹. Note – These costs do not include the additional costs of retrofitting the control device (sampling ports, etc.) and the closed vent system per Table 14-2. Inclusion of these costs would only further increase the cost effectiveness ratios.

Table 15-5 Diaphragm Pump Control Cost Effectiveness (assuming 8760 hours of annual pump operation)

	<i>Scenario</i>	Single Pollutant Approach
		VOC Only
Production Diaphragm Pump	<i>Sites with Affected Pneumatic Pumps & Combustor field performance test¹</i>	\$7,196
	<i>Sites with Manufacturer Certified Combustor (no performance test)</i>	\$6,687
	<i>Sites with Affected Pneumatic Pumps (& Process Heater performance test)¹</i>	\$7,196
	<i>Sites with existing subpart 0000 or 0000a affected storage tank with control device</i>	\$3,446
	<i>Sites with existing subpart 0000 or 0000a affected compressor with control device</i>	\$860

¹. Note – These costs do not include the additional costs of retrofitting the control device (sampling ports, etc.) and the closed vent system per Table 14-2. Inclusion of these costs would only further increase the cost effectiveness ratios.

While EPA does not establish a bright line that separates what they consider to be reasonable and unreasonable with regard cost effectiveness, the proposal provides indications of levels that EPA clearly considers to be unreasonable. On page 56636 of the September 18, 2015 Federal Register notice proposal, EPA indicates: “In a previous NSPS rulemaking [72 FR 64864 (November 16, 2007)], **we had concluded that a VOC control option was not cost-effective at a cost of \$5,700 per ton.**”

As illustrated above, for piston pumps, the control costs exceed the reasonable cost of control per ton for all possible scenarios.

For diaphragm pumps, the cost effectiveness values shown above are lower due to the higher emissions. However, as discussed further in 15.3.4, diaphragm pumps are generally used for heat tracing and as such are not used everywhere and, when they are used do not operate year round. Using a more realistic estimate of 4 months of operation per year, the emissions from these pumps are actually 1/3rd the level assumed by EPA. The table below reflects the cost effectiveness of controlling diaphragm pumps after accounting for their non-year round operation.

Table 15-6 Diaphragm Pump Control Cost Effectiveness (assuming 4 months of annual pump operation)

	<i>Scenario</i>	Single Pollutant Approach
		VOC Only
Production Diaphragm Pump	<i>Sites with Affected Pneumatic Pumps & Combustor field performance test¹</i>	\$21,587
	<i>Sites with Manufacturer Certified Combustor (no performance test)</i>	\$20,062
	<i>Sites with Affected Pneumatic Pumps (& Process Heater performance test)¹</i>	\$21,587

<i>Sites with existing subpart 0000 or 0000a affected storage tank with control device</i>	\$10,377
<i>Sites with existing subpart 0000 or 0000a affected compressor with control device</i>	\$2,581

¹ Note – These costs do not include the additional costs of retrofitting the control device (sampling ports, etc.) and the closed vent system per Table 15-2. Inclusion of these costs would only further increase the cost effectiveness ratios.

After accounting for the non-year round operation of pneumatic pumps, the only reasonable control costs found were for an existing control device and closed vent system that is already subject to the performance testing and monitoring requirements specified in the CTGs. As explained in more detail earlier in these comments, the probability of this occurring is near zero.

This illustrates the need for EPA to revise the draft CTG approach to performance testing and monitoring for control devices and closed vent systems used for pneumatic pump affected sources as previously explained earlier in these comments.

It is important to note that the above costs assume that the control device and closed vent system existing on site has enough design margin to accommodate the tie-in of a pneumatic pump and that such a change to site configuration does not trigger the need for a revision to the site's air permit.

15.3.2 EPA Did Not Consider or Provide For Instances Where Routing A Pneumatic Pump Affected Source To An Existing Control Device Is Not Technically Feasible Or Where The Control Device Belongs To Another Party

Whether considering a VRU, flare, enclosed combustion device, or any other control technique, control devices are designed for a specific set of conditions with a number of key assumptions. For example, a flare header might be designed to allow enough flow to permit two pressure safety valves (PSV) to open simultaneously without creating so much back pressure as to take either PSV out of critical flow. The design is sensitive to other flow streams in the pipe and putting a pump exhaust into that header could result in too much backpressure for the safety devices to function as intended. Conversely, but equally important, a pneumatic pump is chosen for a specific backpressure and the backpressure imposed by a PSV could stop the pump from functioning at a critical moment, exacerbating the already unstable situation that resulted in the opening of the PSVs.

Additionally, enclosed combustion devices are designed for a maximum BTU load and may not be able to accommodate the exhaust gas from a pneumatic pump affected source without replacing the control device.

The design process for VRUs are even more sensitive to changes than other control devices. The VRU equipment is designed to recover vapors and raise their pressure enough to be useful, is expensive, and has a limited range of possible flow rates. Adding vapor loads to a VRU must be carefully evaluated on a case-by-case basis.

In some instances an existing control device on a particular site may be owned and operated by a third party, such as a control device owned and operated by a gathering and collection system operator with a glycol dehydration unit on a well site. In these instances, the well site operator does not have the right to route a pneumatic pump affected source exhaust to the control device.

EPA should provide exclusion in the CTGs such that routing a pneumatic pump affected source to an existing control device or closed vent system is not required if it is not technically feasible or if the control device is not owned and operated by the site operator. Proposed updated rule language is included in 15.4.1.

If needed, EPA could provide provisions in the rule for an operator to make an engineering determination that an existing control device cannot technically handle the additional gas from a pneumatic pump affected source exhaust, document this determination, and make such a determination available for inspection by EPA or other competent authority.

15.3.3 EPA Did Not Consider How CTG Requirements to Route Pneumatic Pumps To Control Devices Can Potentially Trigger Permitting Requirements.

Under draft CTG, EPA is requiring that the exhaust from pneumatic pumps be controlled by control devices if those devices are present on site.

EPA's analysis of the proposed approach to pneumatic pumps has ignored the fact that such an action may require amending the air permit for a facility simply due connecting a pump to a control device. In many cases, the act of tying a new stream into a combustion control device will result in a change in emissions from a site due to the rerouting, which can trigger permitting. Local permitting requirements are very sensitive to the reality that control devices are subtle and complex engineering structures that have very real physical limits. As discussed above, EPA's proposal for natural gas pneumatic pumps seems to ignore these physical realities.

EPA has not accounted for any time or expense associated with this permitting action, nor have they considered any of the additional burden on permitting authorities. These impacts should be quantified and considered prior to finalizing the CTG requirements that may trigger state permitting requirements. One alternative to this concern is to revise the affected source criteria so that a pneumatic pump would not be an affected source, if it was connected to a control device on site. This could be accomplished by revising the text of H.1 as follows:

Each pneumatic pump, which is a natural gas-driven chemical/methanol or natural gas-driven diaphragm pump located at a natural gas processing plant or located from the wellhead and point of custody transfer to the natural gas transmission and storage segment ~~for~~ which has not been connected to a control device when one is located on site.

An additional advantage of this approach is that it clearly removes the addition of monitoring and performance testing currently in the proposed rule. As discussed in Section 15.3.1, these costs were not included in EPA's cost effectiveness analysis, nor should compliance assurance requirements from OOOOa be required for a control device that was installed for another purpose.

15.3.4 EPA Overstated The Emissions, And Therefore The Benefits, Of The Proposed Requirements For Pneumatic Pumps

EPA has overestimated the emissions from diaphragm pumps. As EPA notes in Section 7.2.1 of the CTGs: "Diaphragm pumps are commonly used to circulate hot glycol or other heat-transfer fluids in tubing covered with insulation to prevent freezing in pipelines, vessels and tanks." As such, these pumps only during the winter season which represents a fraction of the year on average. Yet, EPA has assumed these pumps operate 8,760 hours per year when estimating emissions. This assumption grossly inflates the actual emissions from these sources. A more realistic estimate would be that these sources would operate 3-4 months during the course of the

year and rarely more than 8 months per year. See discussion of cost effectiveness values in Section 15.3.1, including consideration of operation of diaphragm pumps for 4 months/year.

Diaphragm pumps are also used intermittently to transfer bulk fluids such as engine oil or emptying a sump. When used for these types of service they do not run for long periods, are not large emission sources and should not be covered by the CTGs.

API recognizes the need for EPA to simplify analysis for assessing cost benefits for the development of the CTGs. EPA presents values in Section 7 of the CTGs which are based on a number of assumptions. It should be noted that the exhaust rates from pneumatic pumps are, in reality, based on assumed pump rate, a gas-supply pressure, and a pump model. All of these values vary considerably from site to site and even from pump to pump on a given site. When one reviews several manufacturer's pumps, it is readily apparent that they all have a multiplier factor for calculating required supply pressure and allowable exhaust pressure and these factors vary by over two orders of magnitude from one pump model to the next.

15.4 Applicability/Definitions

15.4.1 The CTG Should Have An Exemption For Limited Use/Low Emission Pumps Such As Chemical Injection Pumps

API believes EPA's intent to regulate pneumatic pumps that have lower emission rates than continuous low bleed pneumatic controllers is inappropriate. EPA has previously determined that continuous bleed pneumatic controller devices emitting less than 6 scf/hour did not require control and EPA continues to support that position in the NSPS OOOOa rule proposal. EPA's Technical support document shows the assumed emission rate from pneumatic piston (chemical and methanol) pumps to be 2.48 scf/hour, which is less than half the 6 scf/hour threshold for continuous bleed pneumatic controllers. The cost effectiveness of controlling such low emitting pumps is substantially above EPA's assumed \$285/ton as described Section 15.3.1. Piston pumps in services with emissions below 52,000 scf/year (equivalent to 6 scf/hour annualized) should be exempt due to the low volume of gas exhausted. Demonstration of emissions below this threshold should be a one-time engineering calculation for individual pumps or a class of pumps in similar service - for example chemical/methanol pumps below a pressure & volume combination which would yield exhausted volumes above the threshold.

There are also natural gas-driven pneumatic pumps, typically diaphragm pumps, that are used intermittently to transfer bulk liquids. These are generally either manually operated as needed or are triggered by a level controller. For instance, there are engine skid sump pumps, pipeline sump pumps, tank bottom pumps, flare knockout drum pumps, separator knockout drum pumps, etc. that are used to pump liquids from one place to another. These pumps do not run continuously or even seasonally for long periods, but only run periodically as needed. Thus, these pumps do not exhaust large volumes of gas in the aggregate. For this reason, there should be an annual venting limit and an exemption for intermittently operated pumps.

EPA should provide an exemption under the rule for any pump emitting at a rate less than the rate of a continuous low bleed pneumatic controller. Specifically, any pneumatic pump which emits less than 53,000 scf/year (i.e. 6 scf/hour for an entire year) should be exempted. This would provide a reasonable exemption for intermittent use pneumatic pumps which do not have large aggregate emissions, including diaphragm pumps that are operated manually, triggered by a level controller, or operated temporarily or seasonally.

Alternatively, EPA could use the operating time of a pump with exhaust rate of 22.45 scf/hour (equivalent to assume emission rate of a diaphragm pump from the technical support document) that would result in 53,000 scf/year of emissions, which is 96.5 days. This could be rounded down to 90 days of operation, or 2,160 hours. This approach would simplify the exemption, as companies would track the hours of operation instead of calculating the exact exhaust rate.

API proposes the following updates to the applicability text under H.1 of the model rule:

Each pneumatic pump, which is a natural gas-driven chemical/methanol or natural gas-driven diaphragm pump located at a natural gas processing plant or located from the wellhead and point of custody transfer to the natural gas transmission and storage segment with an exhaust rate greater than 53,000 scf/year and operates more than 2,160 hours per year and for which a control device owned and operated by the owner and operator of the pump is located on site and not demonstrated to be technically infeasible to control.

15.4.2 The Rule Text Should Exempt Portable Pneumatic Pumps

There are many scenarios where portable pneumatic pumps are used by industry for infrequent and temporary operations, such as pumping out a tank or a sump. Since these pumps will, by their very nature, result in very low emissions, portable pumps should be exempt from the rule. Such an exemption would be analogous to that provided to portable or transportable (has wheels, skids, carrying handles, dolly, trailer or platform) engines relative to the NSPS RICE rules.

API recommends that EPA update the definition of pneumatic pump under the rule to exclude temporary and portable pumps.

EPA should amend the definitions in the draft rule language under Section H to address these temporary and portable sources, i.e. "A temporary or portable pump is considered a pump subject to the CTGs if the pump stays in one location for more than 12 months (or full annual operating period of a seasonal source)." (See revised definition under 15.4.3)

15.4.3 The CTG Text Should Be Clearer On Exclusion Of Lean Glycol Circulation Pumps (Often Referred To As Kimray Pumps) On Dehydration Units (As Intended By The NSPS OOOOa Preamble Language)

EPA's intent is clear in the Preamble (FR 56627) to NSPS Subpart OOOOa that EPA is not proposing to regulate glycol dehydrator pumps under that rule, but the draft CTG text is not as clear on this point.

EPA can improve this by editing the definitions in the CTGs draft rule language. The two definitions below are inconsistent; however, it is noted that neither defined term is used in the CTG text itself. EPA should remove the two definitions below.

~~"Chemical/methanol or diaphragm pump means a gas-driven positive displacement pump typically used to inject precise amounts of chemicals into process streams or circulate glycol compounds for freeze protection."~~

~~"Natural gas-driven chemical/ methanol or diaphragm pump means a chemical or methanol injection or circulation pump or a diaphragm pump powered by pressurized natural gas."~~

These definitions should be replaced with the following definition:

“Natural gas-driven chemical/methanol pump or natural gas-driven diaphragm pump means a gas-driven positive displacement pump used to inject chemicals into process streams or circulate glycol compounds for freeze protection. A glycol circulation pump on a glycol dehydration unit is not a chemical/methanol or diaphragm pump. A temporary or portable pump is considered a pump subject to the CTGs if the pump stays in one location for more than 12 months (or full annual operating period of a seasonal source).”

15.4.4 The Rule Should Allow For Removal Of Control Device – I.E. Pneumatic Pump No Longer Has To Be Controlled If Control No Longer Present

If a control device is no longer needed for the purpose for which it was originally installed, EPA should clarify that any pneumatic pumps that were routed to the device should no longer require control. A control device should not be required to remain in service only for the purpose of controlling one or more pneumatic pumps.

For example, NSPS subpart OOOO allows for removal of control device from a storage vessel if emissions fall below a certain level. Specifically, under the NSPS, EPA has allowed for the removal of control devices once emissions are below 4 TPY (40 CFR 60.5395(d)(2) and 60.5395a(a)(3)). In the preamble to the NSPS OOOO revisions dated April 12, 2013 (Federal Register Vol. 78, No. 71, 22133-22134) EPA also noted that removal of control at 4 TPY will help relieve the control device shortage issue as well as reduce emissions from burning more pilot gas than the waste gas being burned. If a control device is removed, the requirement to route pneumatic pump exhaust to the control device should no longer be applicable.

15.4.5 EPA Must Define “Control Device” In The Context Of Its Use In The Requirements For Pneumatic Pumps

H.2(b)(1) states:

Each natural gas-driven pneumatic pump located between the wellhead and point of custody transfer to the natural gas transmission and storage segment, for which a control device is located on site, must reduce natural gas emissions by 95 percent, except as provided in paragraph (b)(2) of this section.

Control device is not a defined term and should be specifically defined to clarify EPA's intent which, from review of the complete NSPS OOOOa proposal and TSD, appears to be to utilize combustion control devices and/or VRUs if available. This issue is discussed in Section 10.0, and a definition recommended that will eliminate the issues related to the uncertainty of when the pneumatic pump requirements apply.

However, if EPA does not elect to incorporate API's suggested changes in section 10.0, then EPA must make revisions within section H of the CTG model rule to clarify this situation. Specifically, API recommends the following change:

H.2(b)(1) Each natural gas-driven pneumatic pump located between the wellhead and point of custody transfer to the natural gas transmission and storage segment, for which a control device is located on site, must reduce natural gas emissions by 95 percent, except as provided in paragraph (b)(2) of this section. For the purpose of this section, boilers,

process heaters, and other combustion devices that burn natural gas to derive useful work or heat are not considered control devices.

15.4.6 The Control Device Must Be Owned and Operated By The Pump Owner and Operator

EPA must be clear that a control device on site must be owned and operated by the same company that owns and operates the pumps. For instance, the dehydration unit located on a production site may be owned and operated by the gathering company, not the producer. If there is a dehydration unit on site with a control device that is owned and operated by the gathering company, the producer has no right to route pump exhaust to the control device and should not be required to route the pump exhaust to the dehydration control device owned and operated by a separate entity.

15.4.7 Heaters Should Not Be Considered As Existing Control Devices (i.e. Pneumatic Pump Exhaust Should Not Be Required To Be Routed To A Heater Simply Because One Is Present)

The language in section E.1 of the model rule describes requirements that each control device must meet and this list includes process heaters. This language could be misinterpreted to mean that any process heater should be considered a control device and thus, its presence would require routing of a pump exhaust to the heater. It is not believed that this was EPA's intent.

EPA should clarify that routing emissions to a process heater should be considered "routing to a process" and the heater should not be considered as a control device. More discussion on this topic is provided in section 10.0. However, if EPA does not elect to incorporate API's suggested changes in section 10.0, then EPA must make revisions within section H of the CTG model rule to clarify this situation. The recommended changes are shown above in section 15.4.5.

15.4.8 Non-Affected Facilities (e.g., Pumps Not Requiring Controls Under The CTGs Should Not Have Obligations Under The Rule)

H.3(c) states

(c) You own or operate a natural gas-driven pneumatic pump located between the wellhead and point of custody transfer to the natural gas transmission and storage segment and your pneumatic pump is not controlled by at least 95 percent because a control device is not available at the site, you must submit the certification in section H.5(a)(1)(i).

EPA should remove the requirements requiring certification for pumps located at sites without control devices. Specifically, H.3(c) should be removed from the draft CTGs.

15.4.9 The CTGs Should Not Include An Ongoing Requirement To Review The Status Of The Addition Of A Control Device

Section H.2 of the draft CTGs states:

(b)(2) You are not required to install a control device solely for the purposes of complying with the 95 percent reduction of paragraph (b)(1) of this section. If you do not have a control device installed on site by the compliance date specified by your regulatory authority, then you must comply instead with the provisions of paragraph (b)(2)(i) and (ii) of this section.

- (i) Submit a certification in accordance with H.5(b)(1)(i).*
- (ii) If you subsequently install a control device, you are no longer required to submit the certification in H.5(b)(1)(i) and must be in compliance with the requirements of paragraph (b)(1) of this section within 30 days of installation of the control device. Compliance with this requirement should be reported in the next annual report in accordance with H.5(a)(1)(iii).*

Companies typically do not track serial numbers on pumps, particularly small piston pumps for chemical injection. The pumps are often swapped out and moved around as needed for chemical injection. Typically pumps are purchased in bulk and maintained in a warehouse to install as needed. Trying to keep track of where these pumps are located and a control device is later added will be very difficult.

The applicability of control requirements in the CTGs should be based on an effective date of the CTG and not the construction, modification, or installation of a control device.

15.5 Reporting And Recordkeeping

15.5.1 Remove The Tagging Requirement.

It is unclear what EPA's intent is for requiring tagging of affected natural gas driven pneumatic pumps under H.2(a)(2), H.2(b)(3), and H.3(d). The applicability is clearly stated. The tagging appears to add little value.

API requests that EPA remove the following paragraphs related to tagging:

~~H.2(a)(2) Each natural gas driven pneumatic pump at a natural gas processing plant must be tagged with the date the natural gas driven pneumatic pump is required to comply with the model rule (as established by the regulatory authority) that allows traceability to the records for that gas driven pneumatic pump as required in section H.5(a)(1)(i).~~

~~H.2(b)(3) Each natural gas driven pneumatic pump located between the wellhead and point of custody transfer to the natural gas transmission and storage segment for which a control device is located on site must be tagged with the date that the pneumatic pump must comply with the model rule (as established by the regulatory authority) that allows traceability to the records for that natural gas driven pneumatic pump as required in section H.5(a)(1)(ii).~~

~~H.3(d) You must tag each natural gas driven pneumatic pump subject to VOC emission requirements according to the requirements of section (a)(2) or (b)(3), as applicable.~~

Building on section 15.4.9, if any tagging is retained, it should be to document that (a) no control device was not onsite as of the CTG effective date and therefore no further action would be needed at any time under the CTG or (b) that a pump is located with a control device on site, but the control has been determined to be technically infeasible.

15.5.2 EPA Should Remove The Recordkeeping Requirements For Control Devices And Closed Vent Systems

As discussed in Section 15.3.1, EPA's costs for controlling pneumatic pumps did not include the cost of the recordkeeping and reporting requirements in the cost estimate. The recordkeeping and

reporting requirements that EPA has included are burdensome in some cases and expand requirements to non-affected sources.

- H.3(c) requires certification of non-affected sources (Section 15.4.8).
- H.4 requires testing data to be submitted that is not accounted for in the cost analysis, not cost effective when included, and not needed based on the exhaust gas being natural gas, which is the same as the pilot of the combustion device (Section 15.2). EPA should remove the combustion control device testing, monitoring, reporting, and recordkeeping requirements.
- H.5(a)(1)(i) – It is not clear what EPA means by records of “the manufacturer specifications”. EPA should clearly specify what they want here. It is assumed this refers to the make model of the pump.
- H.5(a)(1)(ii) – Having to continue to track the data of a pump being constructed, reconstructed, or modified at a non-natural gas processing plant location that did not have a control device that later has one installed. Pumps should only be triggered at the time the pump is installed. With the movement and replacement of pumps, keeping track of such information will be extremely difficult. (See Section 15.4.9)

In many instances, these controls have been installed under a state permit (or other regulatory requirement) and have compliance assurance requirements associated with those requirements. It is inappropriate to add new compliance assurance requirements that may conflict to the original requirements the control device was installed to meet. Additionally, the control device may not be able to meet or be retrofitted to meet (i.e. install sample ports) to meet the compliance assurance requirements of the CTG model rule.

API recommends the amendments to the draft rule language as outlined for pumps in these rule comments and those below.

H.5(b)(1) For each natural gas-driven pneumatic pump subject to VOC emission control requirements, annual reports are required to include the information specified in paragraphs (b)(1)(i) through (iv) of this section.

~~(i) In the initial annual report, a certification that there is no control device on site, if applicable.~~

(ii) An identification of each natural gas-driven pneumatic pump, including the identification information specified in section H.2(a)(2) or (b)(3).

(iii) An identification of any sites which contain natural pneumatic pumps and which installed a control device during the reporting period, where there was no control device previously at the site.

(iv) Records of deviations specified in paragraph (c)(16)(ii) of this section that occurred during the reporting period.

~~(v) If complying with H.2(b)(1) with a control device tested under section F(d), which meets the criteria in section F(d)(11) and section F(e), records specified in paragraphs (a)(1)(iv)(A) through (G) of this section for each pneumatic pump constructed, modified or reconstructed during the reporting period.~~

H.5(a)(1) For each applicable natural gas-driven pneumatic pump subject to VOC emission control requirements, you must maintain the records identified in paragraphs (a)(1)(i) through (iii) of this section onsite or at the nearest local field office for at least five years.

(i) Records of the date that an individual natural gas-driven pneumatic pump is required to comply with the model rule (as specified by the regulatory authority), location and

manufacturer specifications make and model for each natural gas-driven pneumatic pump.

- (ii) Records of deviations in cases where the pneumatic pump was not operated in compliance with the requirements specified in section H.2.
- (iii) ~~Records of the control device installation date and the location of sites containing pneumatic pumps at which a control device was installed, where previously there was no control device at the site.~~
- (iv) ~~Except as specified in paragraph (a)(iv)(G) of this section, records for each control device tested under section F(d) which meets the criteria in section F(d)(11) and section F(e) and used to comply with H.2(b)(1) for each pneumatic pump.~~
 - ~~(A) Make, model and serial number of purchased device.~~
 - ~~(B) Date of purchase.~~
 - ~~(C) Copy of purchase order.~~
 - ~~(D) Location of the pneumatic pump and control device in latitude and longitude coordinates in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983.~~
 - ~~(E) Inlet gas flow rate.~~
 - ~~(F) Records of continuous compliance requirements in F(e) as specified in paragraphs (a)(1)(iv)(F)(1) through (4) of this section.~~
 - ~~(1) Records that the pilot flame is present at all times of operation.~~
 - ~~(2) Records that the device was operated with no visible emissions except for periods not to exceed a total of 2 minutes during any hour.~~
 - ~~(3) Records of the maintenance and repair log.~~
 - ~~(4) Records of the visible emissions test following return to operation from a maintenance or repair activity.~~
- (G) As an alternative to the requirements of paragraph (a)(1)(iv)(D) of this part, you may maintain records of one or more digital photographs with the date the photograph was taken and the latitude and longitude of the pneumatic pump and control device imbedded within or stored with the digital file. As an alternative to imbedded latitude and longitude within the digital photograph, the digital photograph may consist of a photograph of the pneumatic pump and control device with a photograph of a separately operating GIS device within the same digital picture, provided the latitude and longitude output of the GIS unit can be clearly read in the digital photograph.

16.0 EPA MUST RESOLVE THE OVERLAP AND REDUNDANCY BETWEEN THE COVER AND CLOSED VENT SYSTEM AND FUGITIVE EMISSION REQUIREMENTS

In D.2(b) of the CTG model rule, EPA included initial and continuous inspection and monitoring requirements for covers and closed vent systems. These requirements consist of a program to identify leaks on covers and closed vent systems and repair them. In addition, the model rule includes a fugitive emissions program in Section I that is also based on identifying and repairing leaks. Section I will also apply to covers and closed vent systems, as the definition of "fugitive emissions component" includes "closed vent systems," and "thief hatches or other openings on storage vessels." This results in covers and CVS being subject to both the leak detection and repair requirements in Section I and the leak detection and repair requirements in Section D. This creates a situation which is unnecessarily duplicative and redundant.

Table 16-1 provides a summary of these overlapping requirements.

Table 16-1 Summary of the Overlapping Closed Vent System and Cover Requirements in NSPS Subpart OOOO

Affected Equipment/Components	D.2		I	
	Inspections	M21	OGI	M21
closed vent system joint, seam, or other connection that is permanently or semi-permanently sealed (<i>e.g.</i> , a welded joint between two sections of hard piping or a bolted and gasketed ducting flange)	(a)(2) annual visual inspections for defects	(a)(1) Initial, annual, and after repairs/replacements	Initially, semiannually (could move to quarterly or annual depending on % leakers), and after repair/replacement	Option for use after repair/replacement
Closed vent system components other than a joint, seam, or other connection that is permanently or semi-permanently sealed	(b)(3) annual visual inspections for defects	(b)(1) and (2) Initial, annual, and after repairs/replacements		
Covers	(c) annual visual inspections for defects	n/a		

API does not believe that this was EPA's intention, as EPA did not include component counts and cost estimates for monitoring the storage vessel cover or the closed vent system with the LDAR cost estimates. EPA only included counts in the model plant for components for a wellhead, separator, heater, and dehydration unit according to the CTG (Table 9-4 and Table 9-5).

API believes that the appropriate and most effective solution is to require the same methodology to monitor the cover and CVS and other fugitive leaks, and that OGI is the most effective methodology. OGI can see the leaks regardless of the type of system. There is no need for additional monitoring on top of the OGI monitoring.

To avoid duplicative monitoring requirements, API recommends clearly defining "closed vent system" consistent with NSPS Subpart definitions, that is entirely separate from "fugitive emission component". By having a separate definition for closed vent system, a subset of fugitive components is created for affected facilities with closed vent systems that are subject to fugitive monitoring requirements even if the rest of an existing site, for example, is not subject to fugitive monitoring requirements in Section D. The net result is one consistent set of fugitive monitoring requirements that allows for use of OGI whether fugitive components are part of a closed vent system or part of another process.

Following are descriptions of these recommended improvements.

16.1 Define "Closed Vent System"

As noted above, API recommends that EPA add a definition of a closed vent system in the CTG model rule. The components of a closed vent system may have fugitive components included but also has additional components outside of fugitives that ensure the emissions are being routed to the control device. Under NESHAP Subpart HH, EPA defined closed vent system as

"Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and if necessary, flow inducing devices that transport gas or vapor from an emission point to one or more control devices. If gas or vapor from

regulated equipment is routed to a process (e.g., to a fuel gas system), the conveyance system shall not be considered a closed-vent system and is not subject to closed-vent system standards."

API recommends the same definition of closed vent system be added to the CTG model rule with an additional clarification (**bold**) that would include covers in the definition. This would ensure that all of the leak detection and repair requirements would also apply to components and openings on covers.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and if necessary, flow inducing devices that transport gas or vapor from an emission point to one or more control devices. If gas or vapor from regulated equipment is routed to a process (e.g., to a fuel gas system), the conveyance system **except for components and other openings on the cover of the equipment** shall not be considered a closed-vent system and is not subject to closed-vent system standards.

API recognizes that there are a number of interrelated aspects of this definition and the requirements related to the definitions of "routed to a process or route to a process" and "fugitive emissions component", as well as the associated requirements. Due to the insufficient length of the comment period, API is not offering a comprehensive recommendation in these comments. However, API will provide supplementary information with such a recommendation following the end of the comment period.

16.2 Remove Cover and Closed Vent Systems Components From Definition Of Fugitive Emissions Component

In order to totally resolve the redundancy in the cover and closed vent system and fugitive component requirements, the definition of "fugitive emissions component" in I.6 needs to be modified.

Fugitive emissions component means any component that has the potential to emit fugitive emissions of methane or VOC at a well site or compressor station site, including but not limited to valves, connectors, pressure relief devices, open-ended lines, access doors, flanges, ~~closed vent systems, thief hatches or other openings on a storage vessels,~~ agitator seals, distance pieces, crankcase vents, blowdown vents, pump seals or diaphragms, compressors, separators, pressure vessels, dehydrators, heaters, instruments, and meters. Devices that vent as part of normal operations, such as natural gas-driven pneumatic controllers or natural gas-driven pumps, are not fugitive emissions components, insofar as the natural gas discharged from the device's vent is not considered a fugitive emission. Emissions originating from other than the vent, such as the seals around the bellows of a diaphragm pump, would be considered fugitive emissions.

API has several other suggestions related to this definition. While they are not shown here since they are not related to closed vent systems and covers, they are provided and discussed in Section 17.2.1.

16.3 Remove Section D.2

API recommends that all paragraphs of Section D.2 be removed. As shown in Table 16-2 every relevant requirement of D.2 will be addressed by referring to a requirement in Section I, or in the case of the bypass requirements, requirements in D.1. In many cases, moving to the OGI-based requirements will result in a more robust program to identify and repair leaks from closed vent systems and cover components.

Table 16-2 Side-by-Side Comparison of CTG Model Rule Section D.2 and Section I Closed Vent System and Cover Requirements

D.2	Section D.2 Requirement	I	Section I Requirement
(a)	CVS Joints, seams and other connectors - Initial M21 and annual visual inspections.	I.2 – I.4	All components – OGI monitoring initial and semi-annual
(b)	Other CVS components - Annual M21 and annual visual inspections		
(c)	Covers - Annual visual inspection		
(d)	Bypass	n/a	Not addressed in section I, but completely addressed in D.1(b)(3)
(e)	M21	not needed	Not needed
(e)(1)-(8)	M21 requirements		
(e)(9)	Repairs - First attempt within 5 days, repair within 15 days.	I.2(f)(1)	Repairs - Repair within 15 days.
(a)(2)	For CVS Joints, seams and other connectors only – monitor using M21 after repair/replacement	I.2(f)(2)	Resurvey (all components) using OGI or M21 within 15 days of repair
(e)(10)	Delay of repair - If technically infeasible without shutdown – do at next shutdown	I.2(j)(1)	If technically infeasible during operation of the unit, do at next shutdown or within 6 months, whichever is earlier
(e)(11)	Unsafe to inspect	n/a	Not necessary for OGI monitoring
(e)(12)	Difficult to inspect		
(e)(13)	Records	I.5(a)	Records

The related recommended rule changes throughout the CTG model rule to refer to the analogous sections of Section I rather than Section D.2 are provided in section 16.5.

16.4 The Requirements Do Not Need To Address Covers On Uncontrolled Storage Vessels And Covers And Closed Vent Systems On Storage Vessels Subject To Legally And Practically Enforceable Requirements

The changes recommended by API above will eliminate the redundancy in requirements for covers and closed vent systems on centrifugal compressor, pneumatic pump, and storage vessel affected facilities under the CTG model rule.

Under the draft model rule scenario, covers on uncontrolled storage vessels would have been subject to the fugitive emissions requirements. These covers will not be subject to any leak monitoring and repair requirements under the changes recommended by API above. However, as discussed in the following, requiring these covers to be monitored would add no value. If a tank is uncontrolled (i.e. <6 tpy VOC uncontrolled) then leaks would be accounted for as part of the allowable emissions for the uncontrolled storage vessel. Thief hatches and pressure relief devices have an inherent leak rate since they are not welded shut. However, emissions from the thief hatch and pressure relief device are accounted for in the emission determined using EPA's AP-42 7.1 with TANKS 4.09 and when flash emissions are estimated.

Thief hatches that are weighted or spring tensioned serve as emergency overpressure relief devices in addition to providing a point of access for obtaining a sample of the material stored in the storage vessel or for gauging the liquid level. Thief hatches act in combination with the pressure/vacuum (P/V) relief devices to prevent overpressure and bursting of a tank. During normal operations, neither the P/V devices nor the thief hatch will open. In the rare occurrence of overpressure conditions, the P/V devices will open to vent tank vapors. If the P/V devices flow capacity is not sufficient to prevent further overpressure of the tank, then the thief hatch will open to provide additional venting capacity. Such an overpressure incident may be due to a rapid inflow of produced fluid/gas into the storage vessel if, for example, a separator "dump valve" sticks open or fails. The functionality of P/V devices and thief hatches as overpressure relief devices must be preserved to enable safe operation. If the storage vessel is not controlled, these devices are not acting as part of a closed vent system, but rather overpressure relief.

If the tank is controlled under another legally and practically enforceable mechanism like a state permit, the closed vent monitoring requirements for the storage system would be covered by the state, and thus would also be legally and practically enforceable.

16.5 Recommended Changes To NSPS Subpart OOOOa Related To Closed Vent System And Cover Fugitive Monitoring

As noted above, API's recommendation is to have the covers and closed vent requirements throughout the CTG model rule refer to the fugitive monitoring and repair requirements in Section I rather than the cover and closed vent system requirements in Section D. Following are the specific suggested regulatory changes.

~~I.1 (f) For fugitive emissions components also subject to the repair provisions of sections D.2(e)(9) through (12) and (f)(4) through (7), those provisions apply instead to those closed vent system and covers, and the repair provisions of paragraphs (f)(1) and (2) of this section do not apply to those closed vent systems and covers. You must comply with the requirements of paragraphs (f)(1) and (2) of this section.~~

A.3(e) You conduct the initial cover and closed vent system inspections required in section ~~D.2~~ I within 180 days after the effective date of this rule as established by your regulatory authority.

A.5(a)

(1) If required to reduce emissions by complying with section A.2(a), the records specified in paragraphs (a)(6) through (8) of this section and section ~~D.2~~ I.5(a), as applicable.

(6) Records of each closed vent system inspection required under section ~~D.2(a) and (b)~~ I.

(7) A record of each cover inspection required under section ~~D.2(c)~~ I.

(8) If you are subject to the bypass requirements of section ~~D.2(d)~~ D.1(b)(3), a record of each inspection or a record each time the key is checked out or a record of each time the alarm is sounded.

C.4(a)(4) You conduct the initial cover and closed vent system inspections required in section ~~D.2~~ I within 180 days after the effective date specified by your regulatory authority.

C.6(a)(1)

- (iii) Records of each closed vent system inspection required under section ~~D.2(a)~~ and ~~(b)~~I.
- (iv) A record of each cover inspection required under section ~~D.2(e)~~I.
- (v) If you are subject to the bypass requirements of section ~~D.2(d)~~D.1(b)(3), a record of each inspection or a record each time the key is checked out or a record of each time the alarm is sounded.
- (vi) If you are subject to the closed vent system no detectable emissions requirements of section ~~D.2(a)~~ and ~~(b)~~I, a record of the monitoring in accordance with section ~~D.2(e)~~I.5(a).

17.0 FUGITIVE EMISSIONS AT WELL SITES AND COMPRESSOR STATIONS

17.1 General

The following section addresses comments on EPA's proposed requirements for fugitive component emissions. Comments are organized around the following topics:

- Applicability
- Impacts, Emissions and Costs
- Work Practices and Inspections
- Testing and Monitoring
- Reporting and Recordkeeping.

17.2 Applicability

17.2.1 The Definition Of Fugitives Emissions Component Is Confusing, Which Leads To Duplicative Facility Applicability Requirements For Leak Detection And Closed Vent Systems

The definition of *fugitive emission component* is inconsistent with historical definitions for other leak detection programs. In those programs, including the one in Subpart OOOO and OOOOa for gas processing plants, fugitives emission components are defined as *Equipment*. While it may be appropriate to have a separate definition apart from that used in gas processing plants, it should be reflective of the Equipment definition and not be more expansive to include equipment that is neither a fugitive component nor part of another system. Our recommended text changes to the definition can be found at the end of this section (see Section 17.2.11).

The definition is also not consistent with the TSD for the rulemaking (Oil and Natural Gas Sector: Standards for Crude Oil and Natural Gas Facilities, Background Technical Support Document for the Proposed New Source Performance Standards. 40 CFR Part 60, subpart OOOOa, August, 2015). The TSD cites the white paper for the monitoring methods evaluated (Section 5.1 on page 47) and does not include blowdown lines in the description of "potential sources of fugitive emissions", but includes them in the definition of "fugitive emissions component". The white paper clearly states that emissions from blowdown lines/vents are "considered to be vented emissions and not leaks" for the purposes of the paper (page 13).

Furthermore, the types of fugitive emissions components that EPA has proposed is inconsistent with the types of components in Subpart W, which varies by reporting sector, but generally includes: valves, connectors, flanges, open-ended lines, pressure relief valves, control valves, block valves, orifice meters, regulators, pumps, and other (Tables W-1A through W-7 to Subpart W of Part 98). This will cause confusion between the two programs. Also, this definition is inconsistent with the definition used in NSPS Subparts VVa, KKK, and GGGa. Subpart VVa

defines Equipment as “each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this subpart” (§60.481a). Under Subpart KKK, EPA defined Equipment as “each pump, pressure relief device, open-ended valve or line, valve, compressor, and flange or other connector that is in VOC service or in wet gas service, and any device or system required by this subpart” (§60.631). GGGa defines Equipment as “each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in VOC service. For the purposes of recordkeeping and reporting only, compressors are considered equipment” (§60.591a).

Since these CTGs includes separate closed vent system monitoring requirements for what is essentially a collection of fugitive emission components, *closed vent system* requires its own definition so that closed vent system requirements can stand alone and are not subject to duplicative compliance requirements as currently proposed when also included in this definition. More detailed comments that address this issue for closed vent systems are found in Section 12.0. Other equipment inappropriately included in this definition includes:

“access doors, ..., thief hatches or other openings on storage vessel, agitator seals, distance pieces, crankcase vents, blowdown vents, pump seals or diaphragms, compressors, separators, pressure vessels, dehydrators, heaters, instruments, and meters.”

The equipment list above that should be excluded from the definition are not fugitive components, but rather parts of systems or equipment such as the separators, pressure vessels, dehydrators, and heaters that may have fugitive components, and fugitive component monitoring would be applicable when required. Thief hatches, which are part of closed vent systems, have complexities of operation and design, as discussed in section 16.0, thief hatch monitoring is NOT needed for storage vessels with no closed vent system since thief hatch design and operation is not important with low emission tank that already vents to atmosphere. Including thief hatches with CVS eliminates unnecessary monitoring under Section I of the model rule.

Vents are not fugitive components because they are designed to vent. Compressors are covered in their own section of this rule. Instruments and meters are not defined and some are designed to vent.

The following section in the definition also needs to be deleted as it is confusing and sets conditions upon which it may or may not be a fugitive component which creates a circular conundrum for a monitoring plan:

~~*“Devices that vent as part of normal operations, such as natural gas driven pneumatic controllers or natural gas driven pumps, are not fugitive emissions components, insofar as the natural gas discharged from the device’s vent is not considered a fugitive emission. Emissions originating from other than the vent, such as the seals around the bellows of a diaphragm pump, would be considered fugitive emissions.”*~~

With the section above in the definition, devices described are not fugitive components if it is not leaking as described. But if it is leaking, it is a fugitive component. Since it cannot be known ahead of time if it is leaking as described, there is no monitoring requirement because it is not a fugitive component until it is determined that it is leaking. These equipment types are not fugitive components, and other directed maintenance programs ensure that this equipment operates as designed.

API's requested revisions to the definition of Fugitive Emissions Component are provided at the end of this section (see Section 0).

17.2.2 States Should Have The Ability To Utilize Existing LDAR Regulations In Their SIPs Rather Than The EPA Model Rule

EPA did not consider the inconsistencies with state LDAR programs (CO, PA, WY, TX, CA, etc.). This creates duplicative and potentially conflicting requirements with no little environmental benefit. If a state has a leak program in place, the CTG should not impact or disrupt the existing state program. If the EPA has approved a SIP, then the state should be allowed to utilize their existing LDAR regulations rather than following the EPA CTG model rule since the EPA has already approved of the state's LDAR program as part of the SIP. This would eliminate duplicity and redundancy in the state and federal rules.

17.2.3 The 15 BOE Exemption In I.1(a) Recognizes Low Volume Production Being Lower Emission And Sensitive To Additional Cost Burden

Fugitive emissions do not correlate to production. A production rate gives no indication of the type or number of equipment that are located at the site. In addition, this exemption is irrelevant for new well sites which would not be economical to produce at 15 boe/day. This exemption might only be useful in the rare event of a modification to a stripper well.

API believes it more appropriate and would prefer that the CTG be based on the process equipment located at the site rather than a low production rate since fugitive emissions are based simply on the number of components associated with the process equipment.

API would prefer that the rule be based on the equipment located at the site rather than some arbitrary production rate. As indicated in Section 17.2.7, API believes that sites with equipment configurations or component counts less than the model plants should be exempt from the LDAR requirements, as based on EPA's analysis, LDAR is not cost effective at sites with fewer equipment/components.

17.2.4 The 15 BOE Exemption Is Not The Only Exemption To Consider

The 15 BOE/day exemption will generally not be useful for new sites since this level of production is consistent with a stripper well. Stripper wells represent wells near the end of their productive life not the beginning. Consequently, it would be rare for operators planning to construct well sites with initial production at this low level. The usefulness of this provision is at the end of a well's productive life as an off ramp to exempt being an affected facility much like being able to remove a control device at less than 4 tpy of storage vessel emissions. However, it would be useful for modified or reconstructed sources.

Another exemption is based on GOR. EPA recognizes that oil wells with little to no gas volumes should be exempt from REC requirements based on a low GOR of 300; this same GOR should also be another threshold to exempt well sites from leak detection. If gas volumes are so low that gas gathering is uneconomic, it is not cost effective to have leak detection requirements for little to no methane or natural gas reductions. Since VOC reduction alone is not cost effective, the lack of natural gas production should be a factor in affected facility exemptions.

Text change recommendation to reflect these comments are provided in Section 0.

17.2.5 The Definition Of Well Site For Fugitives Is Problematic And A New Definition For "Central Production Site" Is Needed

EPA has expanded the definition of a well site to include tank batteries not at a well site, as follows:

Well site means one or more areas that are directly disturbed during the drilling and subsequent operation of, or affected by, production facilities directly associated with any oil well, natural gas well, or injection well and its associated well site. For the purposes of the fugitive emissions standards at section I.1, well site also includes tank batteries collecting crude oil, condensate, intermediate hydrocarbon liquids, or produced water condensate from wells not located at the well site (e.g., centralized tank batteries). For the purposes of the fugitive emission requirements, a well site that only contains one or more wellheads is not subject to these requirements. (CTG I-8)

The proposed definition of "well site" includes both a well pad and other sites with process equipment that receives produced fluids from wells. The definition is problematic in that it can be interpreted to mean that all well pads connected to a tank battery or other centralized station can be aggregated as part of a single well site. This is unprecedented and appears to be an attempt to aggregate sites that are not otherwise contiguous or adjacent but instead functionally interrelated. This could lead to conflict with the Source Determination rule leading to potential permitting questions subject to variable interpretations. In Source Determination, courts have ruled against functional interrelatedness. In effect, EPA is applying Option 2 from the Source Determination proposal to define a source in NSPS. **It is inappropriate to aggregate sites.**

This erroneous definition change is being made to support the misconception that hydraulic fracturing increases fugitive emissions and constitutes a modification. The practical result of this error is that EPA's proposed definition of "well site" dissociates from the common sense and generally accepted and practically understood use of the term within industry. As well, tank batteries may or may not be tank batteries because of a false construct based on the activity at a distinctly separate surface site that has one or more wells. Additionally, the wellhead only exemption is rendered meaningless since aggregating separate surface sites into one means there will be no wellhead only well sites since wellhead only sites can produce to centralized tank batteries which would now be considered part of the wellhead only well site. EPA should instead consider a well site to be a distinct and separate surface site from a central processing site with no wellheads. API's recommended definition is provided in Section 0.

Another outfall of trying to define a well site other than in its generally accepted and common sense definition is that EPA assumes that any wellsite such as a wellhead only site produces to a central tank battery. This is not always true, there are other possibilities. A well could produce to a tank battery, a compressor station, or a tank battery combined with a compressor station, any of which may also happen to have one or more wells on the same surface site, making them well sites. Consequently, the collection of well sites that go to a central tank battery with no wells make the battery and the collection of well sites an aggregated single well site. But, if the central tank battery happens to include an onsite well, it is a separate well site, not an aggregated well site. These various operating scenarios complicate determinations of well site as proposed when a definition includes sites with no wells. This argues for each separate surface site to be evaluated independently for modifications without attempted aggregation.

As described in the previous paragraph, there are multiple centralized site configurations which complicate the applicability requirements. While the previous paragraphs discussed the issues with the definition of a "well site", a new definition is needed to more accurately account for

centralized sites. API recommends the terms “central production site” and “transmission compressor station” replace the use of the single term “compressor station”. A central production site properly defined encompasses central gathering and boosting compressor stations, tank batteries, and combination tank batteries and compressor stations that have no wellheads located on the same surface site. Central production sites are located between a well site and natural gas processing plant or transmission pipeline. The recommended definition is found below at the end of this section.

17.2.6 EPA Must Exclude Co-Located Midstream Assets From Well Sites

In the final rule, EPA must clearly exclude co-located midstream assets from the fugitive emission monitoring program for well sites. As proposed, EPA's broad definition of “well site” and “fugitive emission component” could be interpreted to subject midstream assets to fugitive emission monitoring requirements simply because they are located in geographic proximity to a production facility. Such an approach is inconsistent both with the way that the oil and natural gas sector operates and with the CAA. Upstream natural gas production and midstream gas gathering and processing are fully distinct and sequential portions of the natural gas sector supply chain. Appropriate clarifications and changes to the proposed rule need to be addressed so that co-located midstream assets are not inadvertently included in fugitive emission monitoring requirements designed for well sites.

Including co-located midstream assets in the fugitive emissions monitoring program for well sites is inappropriate for a number of reasons. First, equipment owned, operated, or leased by midstream operators is legally distinct from equipment owned, operated, or leased by upstream producers. Given their separate and distinct legal status EPA must establish separate requirements for upstream and midstream equipment. It is arbitrary and capricious to include some midstream assets in the fugitive emissions monitoring program simply because they are co-located within the footprint of a well pad site while excluding other midstream equipment that is located on a separate parcel of land.

API believes that the recommended definition changes discussed above in section 17.2.5 will partially help alleviate this problem. However, API recommends that EPA should also limit well site requirements to the equipment owned or operator by the well operator. API notes that more detail on this issue is provided in comments submitted by the Gas Processors Association (GPA), along with recommended regulatory text.

17.2.7 Only Sites With Major Equipment (Such As Separator, Heater, Or Glycol Dehydrator) Should Be Subject. The Proposed Requirement To Exempt Sites With Only Wellheads Is Not Adequate

“For the purposes of this guideline, fugitive emissions recommendations would not apply to well sites that only contain wellheads.” (CTG 9.1)

API agrees that a well site consisting only of wellheads should be exempt due to the small number of fugitive components. It would be overly burdensome, with little gain in emission reductions to broadly require LDAR programs at sites without process equipment located at the well site.

Similarly, API believes that additional exemptions should apply. EPA's Model Plants used in the Technical Support Document (TSD) for NSPS Subpart OOOOa are based on the following assumed equipment and component counts.

Table 17-1 EPA Model Well Site Equipment and Compressor Counts

	<i>Assumed Equipment Counts</i>		<i>Assumed Component Counts</i>	
Gas Well Sites	Wellheads	2	Valves	114
	Separators	2	Connectors	414
	In-line Heaters	1	OELs	14
	Dehydrators	1	PRVs	6
Oil Well Sites	Oil Wellheads	2	Valves	29
	Separators	1	Connectors	104
	Headers	1	OELs	1
	Heater/Treaters	1	PRVs	1

EPA uses these model well sites to establish the cost effective basis for the rule. Implementing LDAR is not cost effective at sites with component counts less than the model well sites. It is overly burdensome with little gain in emission reductions to broadly require LDAR programs at sites without process equipment located at the well site. API believes that any well site with equipment configurations or component counts less than the model well sites should be exempt from the LDAR requirements. This would exclude well sites with just wellheads, meter runs, pipeline risers, etc. and no production equipment, such as separators, heaters, and dehydrators.

There is a related inconsistency in the CTG text. Section 9.1 (Applicability) says that “for the purposes of this guideline, the emissions and programs to control emissions discussed herein would apply to the collection of fugitive emissions components at a well site ... and compressor stations in the production segment”. However, Section 9.4 (Recommended RACT Level of Control) refers to “RACT for the collection of fugitive emission components at well sites ... and gathering and boosting stations”.

17.2.8 Based On EPA's Estimates, LDAR Requirements For Oil Well Sites Are Not Cost Effective. Therefore, Oil Wells Should Be Exempt From The CTG LDAR Requirements

Similar to the proposed low producing well site exemption for fugitives, oil well sites should be exempt from the LDAR requirements as discussed earlier (Section 2.2). This is based on the costs, cost effectiveness, and benefits estimated for oil wells.

17.2.9 EPA Should Establish An Applicability Criteria Based On VOC Content Of The Gas Stream.

Unlike other equipment leak regulations, EPA neglected to include any kind of de minimis threshold concentration for VOC. For the CTG, since it is only related to VOC reduction guidance, it should provide a VOC threshold for LDAR as it does for tanks. API believes that the cost effectiveness calculation (see section 2.7 & 8) supports a VOC Threshold of 7% VOC by weight. API does not believe that even the 1% threshold used in the 1983 fugitive monitoring CTG for Natural Gas Processing Plants is supportable.

17.2.10 Components At Enhanced Oil Recovery Fields Must Be Exempted From The Fugitive Emissions Standards In Subpart OOOOa

Background on Enhance Oil Recovery

Crude oil development and production in U.S. oil reservoirs can include up to three distinct phases of recovery: primary, secondary, and tertiary recovery. During primary recovery, the natural pressure of the reservoir or gravity drive oil into the wellbore, combined with artificial lift techniques (such as pumps) which bring the oil to the surface. Secondary and tertiary recovery techniques, which are often referred to as Enhanced Oil Recovery, or EOR, extend a field's productive life generally by injecting water, gas, heat, or chemicals to displace oil and drive it to a production wellbore.

Examples of secondary EOR techniques includes water floods, and tertiary EOR techniques includes thermal recovery floods (e.g., steam), and gas injection floods (e.g., CO₂). These EOR oil recovery techniques are used in oil fields to improve oil recovery after reservoir gas has been produced, and reservoir pressure and primary oil production are very low (e.g., no reservoir energy). In addition, the reservoir gas is artificially or mechanically changed with inert gases. Inert gases include nitrogen, hydrogen sulfide (H₂S), and CO₂. These inert gases may be required to be gathered and process through specialty gas plants prior to sale. EOR is commonly found in older oil fields.

Water flooding is used to increase oil production by injecting a substantial amount of water into the oil reservoir rock voidage and increasing reservoir pressure. The injected water displaces the oil and carries the fluids to production wells. Water to oil ratios can be greater than 90%. In some EOR water floods, H₂S and other inert gases are generated in the reservoir. As a result, surface production equipment (i.e., plant) must be designed to handle high volumes of water and 3-phase fluids, and contain the potential "sour" and inert/contaminated gases for personnel safety reasons.

Thermal flooding is used to improve heavy oil recovery by injecting steam into the oil reservoir. Heavy oil has low viscosity, gas to oil ratio (GOR), and typically an API Gravity <18. The steam increases the heavy oil temperature reducing the viscosity allowing the oil to be produced from the well via artificial lift. The thermal surface equipment is designed to manage high volumes of water, heat the water, inject the steam, produce the hot oil, generally 2-phase separation of the fluids, and contain the low volumes of potential "sour" and contaminated gases for personnel safety reasons. Steam floods can generate substantial concentrations of hydrogen sulfide.

Gas injection (CO₂) flooding is used to improve oil recovery by injecting a miscible gas and water into the oil reservoir. The miscible gas, water, and increased reservoir pressure improves oil recovery and fluid sweep. Gas and water are injected into wells and the oil, water, and contaminated inert gas is recovered from production wells. The surface equipment is designed to manage high volumes of water, high pressure gas (e.g., CO₂ as a liquid), injection system, production/gathering system for the multi-phase liquids, high and low pressure separation of the fluids, and greater than 30% inert and potential "sour" gases. Due to the displacement characteristics of CO₂ and Immediately Dangerous to Life or Health (IDLH) for H₂S, the surface equipment is designed for personnel and public safety reasons.

EOR Gas Gathering Systems and Plants are designed to transport and process the volumes and EOR recovered gases that include CO₂, nitrogen (N₂) and H₂S.

EPA Did Not Consider EOR Operations

Oil production fields that utilize EOR have very different gas stream compositions and characteristics from the types of operations that EPA evaluated in the development of the proposed NSPS Subpart OOOOa and the CTGs. These differences have a significant impact on the VOC emissions. EPA's model plants and representative gas compositions used to evaluate the impacts that drove the regulatory decisions are derived from natural gas fields and natural gas processing plants, and these operations do not represent EOR operations. For example, EPA used a single nationwide gas composition to estimate fugitive emissions from all sources.³⁶ This gas composition includes 3.2% inerts by volume. In the limited time available during the public comment period, API did a very brief survey of member companies and found that the inert content of the gas streams in EOR fields ranged from 14% to over 64% by volume, depending on the type of EOR technique used. Obviously this significant difference in gas composition will have a tremendous impact on the baseline VOC and methane emissions and the emission reductions achieved by the fugitive emission requirements. And without a doubt, the decisions made by EPA regarding the reasonableness of the cost in relation to the VOC and methane emission reductions would not be applicable to EOR fields.

From a careful review of the background information for proposed NSPS Subpart OOOOa after which the CTGs are modeled, it appears that EPA did not consider EOR fields in any manner. A search of the September 18, 2015 preamble, the Background Technical Support Document, and the Regulatory Impact Assessment did not find a single mention of "enhanced oil recovery."

However, while EPA did not consider EOR operations in this rulemaking, clearly they are aware of these operations and the emissions. Subpart W of the GHG reporting program requires the reporting of GHG emissions from EOR operations and defines *enhanced oil recovery as follows*:

Enhanced oil recovery (EOR) means the use of certain methods such as water flooding or gas injection into existing wells to increase the recovery of crude oil from a reservoir. In the context of this subpart, EOR applies to injection of critical phase or immiscible carbon dioxide into a crude oil reservoir to enhance the recovery of oil.

Further, subpart W requires reporting of GHG emissions from two specific EOR operations - EOR injection pump blowdown and EOR hydrocarbon liquids dissolved CO₂. Note that in both instances EPA only requires the reporting of CO₂, indicating EPA's expectation that little or no methane would be emitted. Therefore, not only was EPA aware of these EOR operations, EPA had available GHG data from the GHG reporting program that they could have utilized. But they chose to totally ignore this segment in the industry in all technical evaluations.

Conclusions and Recommendation

Following are the conclusions regarding EOR.

- EOR fields are very different from the types of operations EPA evaluated in the development of the proposed NSPS Subpart OOOOa requirements.

³⁶ Memorandum. Brown, Heather P, EC/R Incorporated to Moore, Bruce, EPA/OAQPS/SPPD. Composition of Natural Gas for use in the Oil and Gas Sector Rulemaking. July 28, 2011.

- The gas streams at EOR fields have an inert gas content radically higher than the representative gas composition used by EPA in the evaluation of control options for Subpart OOOOa and the CTGs.
- These differences will have a significant impact on the VOC baseline emissions, emission reductions, and cost effectiveness.
- Based on the fact that EPA did not once mention EOR in the CTGs or background documents, it is clear that there was no evaluation conducted for this segment of the oil and natural gas industry.

Given these facts, EPA must include an exemption for EOR operations from the fugitive leak requirements in the CTGs. Recommended CTG changes are provided in Section 0.

If EPA elects not to incorporate the changes suggested by API above, EPA cannot require EOR fields to comply with the fugitive leak requirements in the CTGs without a full evaluation of emissions, controls, costs, and impacts specific to these unique operations in the oil and natural gas industry and a separate proposal that provides the rationale for any rulemaking for EOR operations. If EPA chooses to follow the path, API will work with EPA to gather accurate information for their analysis.

17.2.11 Produced Water Injection Facilities Should be Exempt from the Requirements

Injection well facilities receive produced water that has been physically treated to remove liquid hydrocarbons and natural gas before arriving at the facility. For the following reasons these facilities should not be included in the fugitive monitoring program:

- They contain operations and activities associated with produced water delivery, storage, and injection.
- These facilities are constructed to manage a producing field's water production.
- Natural gas is not typically associated with these facilities.
- There are limited liquid hydrocarbons present at these facilities. Thus, there are very limited emissions from the storage vessels therefore storage vessels vent to atmosphere and are not controlled.
- Hydrocarbons are removed from the water prior to arriving at the injection well facility to avoid loss of revenue.

There is little to no environmental benefit in subjecting these injection well facilities to LDAR requirements and requiring additional resources which could be used for a better purpose. If EPA had considered the cost effectiveness of LDAR on injection well facilities, the results would show a net negative benefit. Therefore, injection well facilities should be excluded from the LDAR requirements. The recommended regulatory change for this exemption is provided in Section 17.2.12.

17.2.12 Recommended Text And Definition Changes Based On Comments In This Section

1.1 Applicability

(a) The collection of fugitive emission components at a well site with wells that produce, on average, greater than 15 barrel equivalents per day.

(1) The fugitive emissions requirements of this section do not apply to well sites that only contain wellheads.

(2) The fugitive emissions requirements of this section do not apply to any well site or process unit with a GOR less than 300.

(3) The fugitive emissions requirements of this section do not apply to any oil well site requiring mechanical artificial lift such as a rod pump or submersible pump with no associated gas gathering system.

(4) The fugitive emissions requirements of this section do not apply to a well site with one or more wellheads that does not include installation of at least one of the following: a separator, heater, or glycol dehydrator.

(6) The fugitive emissions requirements of this section do not apply to a well site that produces oil with either an API gravity less than 18° or a GOR less than 300 scf.

(7) The fugitive emissions requirements of this section do not apply to an EOR.

(8) The fugitive emissions requirements of this section do not apply to a water injection well.

(b) The collection of fugitive emission components at a central production site or a transmission compressor station located from the wellhead to the point of custody transfer to the natural gas transmission and storage segment or to an oil pipeline.

Central production site means one or more contiguous surface sites with no wellheads and with a collection of either one or more gathering or boosting natural gas compressors, one or more crude oil or condensate storage vessels, or both that process crude oil or natural gas and located between a well site and natural gas processing plant or natural gas transmission line, but is not co-located with a well head.

Fugitive emissions component means each pump, pressure relief device, open-ended valve or line, valve, flange or other connector that is in VOC or natural gas service at a well site, central production site, or transmission compressor station but not including a natural gas processing plant process unit. ~~any component that has the potential to emit fugitive emissions of VOC at a well site or compressor station, including but not limited to valves, connectors, pressure relief devices, open-ended lines, access doors, flanges, closed vent systems, thief hatches or other openings on a storage vessels, agitator seals, distance pieces, crankcase vents, blowdown vents, pump seals or diaphragms, compressors, separators, pressure vessels, dehydrators, heaters, instruments, and meters. Devices that vent as part of normal operations, such as natural gas driven pneumatic controllers or natural gas driven pumps, are not fugitive emissions components, insofar~~

~~as the gas discharged from the device's vent is not considered a fugitive emission. Emissions originating from other than the vent, such as the seals around the bellows of a diaphragm pump, would be considered fugitive emissions.~~

~~Well site means one or more contiguous surface sites/areas that are constructed for/directly disturbed during the drilling and subsequent operation of an oil or natural gas well, and any, or affected by, production facilities directly associated with any oil well, natural gas well, or injection well, and its associated well site. For the purposes of the fugitive emissions standards at section I.1, well site also includes tank batteries collecting crude oil, condensate, intermediate hydrocarbon liquids, or produced water condensate from wells not located at the well site (e.g., centralized tank batteries). For the purposes of the fugitive emission requirements, a well site that only contains one or more wellheads is not subject to these requirements.~~

17.3 Impacts, Emissions, and Costs

17.3.1 EPA Did Not Consider Key Costs To Industry In Assessing The Cost Effectiveness Of Leak Detection Requirements Proposed.

In its cost analysis for the proposed control strategy for fugitives emissions, EPA did not adequately capture all of the costs associated with implementation of such a program. Specifically, in the cost-effectiveness evaluation, EPA underestimated the costs associated with:

- Conducting leak surveys
- Completing repairs, and
- Maintaining the required recordkeeping, including the costs of developing and maintaining the corporate and site-specific monitoring plans.

Further, EPA did not include several aspects beyond the cost of the actual survey work in its cost analysis, including:

- Training of personnel
- Travel time and costs
- Equipment maintenance (e.g. monitoring device calibration)

The following sections expand on each of these topics in more detail and API provides revised costs that are more representative of actual costs anticipated to comply with the proposed rule. Utilizing the more representative costs along with EPA's current estimates of emission reductions expected from the rule, the cost effectiveness of the proposed semi-annual OGI monitoring increases from EPA's estimate of \$2,230 per well site to over \$6,400 per site. As such, the Well Site Program Weighted Average cost effectiveness values (under a Multi-pollutant Method) would increase significantly beyond the already marginal value of \$4,979 per ton of VOC.

When the full costs of monitoring are considered, the leak detection program proposed is not cost effective for either methane or VOC. This finding is based solely on corrected costs and does not reflect any changes to the assumed emission reductions, which API believes have been overstated as well.

At a minimum, API recommends OGI-based surveys be no more frequent than an annual frequency for any affected sources.

The exception to this is oil wells. As discussed above in section 17.2.8 there is no scenario where oil wells are cost effective. EPA should totally abandon the regulation of fugitive emissions at oil wells.

17.3.2 EPA Underestimated The Costs Of The Leak Survey And Leak Repairs In The Cost-Effectiveness Evaluation.

In the cost estimation for implementing the LDAR requirements, EPA underestimated the cost of conducting a leak survey at the model well site. Although EPA estimated the model plant to consist of 2 wells per well site, they used cost data representing an OGI leak survey conducted by a contractor for a single well per well site (\$600/single well battery³⁷) as the basis of the leak survey costs. The cost of the survey based on the reference document would be higher than the value used in the analysis that represents a single well site (\$600/single well battery) and lower than the value provided for a multiple well site (\$1,200/multiple well battery) that represents on average 5 wells per site. A better estimate based on the reference document used would be a linear scaling between the given cost range which would result in an estimate of \$720/model well site, representing 2 wells per well site. EPA also did not include any administrative costs for managing leak surveys conducted by contractors, as indicated in the reference document.

17.3.3 Many Additional Aspects Beyond The Cost Of The Actual Survey Not Considered By EPA Should Be Included In Cost-Effectiveness Evaluation (E.G., Training, Monitoring Device Calibration, Travel Costs, Etc.)

The start-up cost of a major monitoring program involves many costs not associated with the routine recurring costs of the regular survey, such as program design and set up. EPA's cost analysis also failed to consider costs associated with training, monitoring device calibration, data management, and transportation. These are significant costs and should be part of EPA's assessment of the costs of the proposed requirements.

API surveyed companies conducting voluntary LDAR programs and compared these costs to EPA's model well site costs for annual LDAR. EPA's well pad model plant costs for semi-annual OGI LDAR surveys. Using EPA's cost spreadsheet for OGI well pad costs posted to the docket,³⁸ API added or updated costs based on company information. API's cost estimate used the same assumptions as EPA's where company data were not available. Key differences in the costs include the following:

- EPA included the cost of a M21 monitoring device (\$10,800), but excluded the cost of the data collection system. EPA's separate cost estimate for conducting M21 LDAR includes a cost of \$14,500 for a data system in conjunction with the M21 monitoring device. It is not clear why EPA excluded this cost from the OGI LDAR estimate. EPA's estimate for developing monitoring plans does not indicate if it is

³⁷ Carbon Limits. *Quantifying cost-effectiveness of systematic LDAR Programs using IR cameras*. December 24, 2013. Available at http://www.catf.us/resources/publications/files/CATFCarbon_Limits_Leaks_Interim_Report.pdf.

³⁸ CTG_Section_9_OGI_Well_Pad_Model_Plant_Costs_7-7--2015.xlsx

for the corporate level plan, site level plans, or both. EPA's estimate is approximately one-half the cost provided by companies with voluntary programs.

- EPA's estimate of recordkeeping costs does not account for the need to purchase or expand a data collection system to store all the information associated with an ongoing LDAR program. EPA also does not consider the need for a data analyst to manage the information.
- EPA's costs do not consider the purchase of OGI equipment (~\$100,000 per unit), annual calibration of each OGI unit, or the training required to operate each unit.
- EPA's costs do not consider travel to and from each site to conduct the semi-annual surveys and for additional travel to repair and resurvey components when the repair cannot be completed immediately following the survey.
- EPA assumed a cost of \$2.00 to resurvey repaired components. This cost implies the use of soap bubbles under Section 8.3.3 of M21 to determine if the leak has been repaired. However, as written under §60.5397a (j)(2)(ii)(A), the proposed rule does not specify that soap bubbles can be used to determine if a leak is repaired [§60.5397a (j)(2)(ii)(A) - A fugitive emissions component is repaired when the M21 instrument indicates a concentration of less than 500 ppm above background.]. API's cost estimate for resurveying to determine if a leak is repaired is based on determining if the concentration is less than 500 ppm above background.

The following table compares cost information for semi-annual LDAR surveys and a 10,000 ppm leak definition based on data from companies conducting voluntary LDAR versus EPA's cost assumptions. Yellow highlighted cells indicate where costs are different and costs that EPA did not include in their analysis. Overall, API cost data indicate slightly lower well site costs (\$1,590 based on API estimates compared to \$2,096 from EPA's estimate shown in Table 17-2 Corrected Estimate of Monitoring Costs). However API's estimate includes recurring annual costs that were neglected in EPA's estimate and significantly higher company level costs. The resulting total annual cost estimate from API member companies is more than twice EPA's estimate.

Table 17-2 Corrected Estimate of Monitoring Costs

Item	API Annual Total Cost (\$)	EPA Annual Cost (\$)	Comment
One-Time Company Level Costs			
Read rule and instructions	\$231.20	\$231.20	Cost based on hours from PES Memorandum
Development of Equipment Leaks Monitoring Plan - Corporate Plan	\$7,200.00	\$3,468.00	API members estimate \$7,200 to develop the initial corporate monitoring plan. EPA estimated cost based on average number of people and hours from PES Memorandum
Initial Activities Planning	\$1,849.60	\$1,849.60	EPA cost based on hours from PES Memorandum
Notification of Initial Compliance Status	\$1,271.60	\$1,271.60	Assumes that 1 hour is spent to prepare the notification for each well site for 22 well sites
FLIR Monitoring - Cost of OGI Equipment	\$95,000	Excluded from EPA's analysis	API survey responses ranged from \$90K-100K. API estimate conservatively assumes just 1 device is purchased.
FLIR Monitoring - Cost of Data Management System	\$225,000.00		API survey responses ranged from \$200K-250K

Item	API Annual Total Cost (\$)	EPA Annual Cost (\$)	Comment
FLIR certification Training	\$2,000.00		API estimate conservatively assumes only one person is trained
M21 Monitoring and Data Collection System	\$10,800	\$10,800	EPA estimate includes cost of M21 monitoring device (\$10,800) but excludes the cost of the data collection system (\$14,500) that was assumed for M21
<i>First Year Total Hours and Cost per Company</i>	<i>\$343,352</i>	<i>\$17,620</i>	Sum of total company costs above
<i>First Year Total Hours and Cost per Well Site</i>	<i>\$15,607</i>	<i>\$801</i>	Assumes company owns 22 well sites

Table 17-3 Comparison of Monitoring Costs – Annual Costs

Item	API Annual Total Cost (\$/yr)	EPA Annual Cost (\$/yr)	Comment
RECURRING ANNUAL COSTS			
Annual Training	\$2,000.00	Not included	API estimates for annual training ranged from \$1,000 to \$5,000. Conservatively assumed \$2,000/yr
Data Analyst	\$24,000.00	Not included	API estimate based on 10% resources of existing data analyst duties
Annual FLIR Device Calibration	\$4,000.00	Not included	API estimates ranged from \$3,000 - \$5,000/camera. Conservatively assumed just one device is needed.
Annual transportation costs	\$20,000.00	Not included	Per basin cost. API estimate assumes one basin requires 15,000 miles travel annually. Includes fuel and maintenance. Does not include the cost of purchasing a vehicle.
<i>Recurring Annual Costs per Company</i>	<i>\$50,000.00</i>	<i>Not Included</i>	Sum of recurring annual costs above
<i>Recurring Annual Costs per Well Site</i>	<i>\$2,272.73</i>	<i>Not Included</i>	Assumes company owns 22 well sites
Well Site Level Costs			
Subsequent Activities Planning	\$63.05	\$63.05	Based on hours from PES Memorandum. Total cost of planning divided by total number of well sites per company
Development of Site-specific Monitoring Plan	\$120.00	Not Included	API estimate assumes 2 hours per site to develop the proposed site-specific monitoring plans
FLIR Survey cost	\$462.40	\$1,200.00	EPA cost from CL Report (outside contractor, well pad, \$600 per survey). API estimate assumes 1 person and 4 hours to survey a well site using FLIR. Includes travel time.

Item	API Annual Total Cost (\$/yr)	EPA Annual Cost (\$/yr)	Comment
Repair Cost	\$597.48	\$597.48	Assumes 1.18% or 4 total leaks found per survey, 3 fixed online (3 * 0.17 hours * \$66.24/hr) and 1 fixed offline (1 * 4.0 hours * \$66.24/hr)
M21 Resurvey Costs	\$115.60	\$4.00	EPA's resurvey costs assume cost of \$2.00 per component for offline component repair. API's resurvey cost assumes 2 hours are required to travel to/from the site and resurvey the fixed component.
Annual Report	\$231.20	\$231.20	Assumes that 4 hours are spent to prepare the annual report for each well site and includes storing/filing of records
<i>Cost per Well Site (Well site level costs only)</i>	<i>\$1,590</i>	<i>\$2,096</i>	Sum of well site level annual costs
<i>Annual Cost per well site with Amortized Capital Cost</i>	<i>\$6,476</i>	<i>\$2,230</i>	Includes first year costs per company site from table above, cost amortized over 8 years at 7% interest

17.3.4 EPA Did Not Account For The Limited Availability Of Trained Personnel And Equipment To Complete Monitoring

Section 9.4 of the draft CTG discusses the burden on the operators from the need to hire qualified contractors to perform the monitoring. Most API companies that have implemented voluntary LDAR programs for their upstream operations have performed their work internally with their own personnel. These companies took considerable time to train their initial core staff, and required in many cases, more than a year to have such a program fully operational.

Based on discussions with both OGI Instrument manufacturers and trainers, there is likely to be an initial delay in providing OGI instruments and training to meet demand. EPA should provide an initial compliance period of 1 year to allow LDAR detection equipment manufacturers and training organizations to meet the initial demand for equipment and training. In addition, API requests a one-year phase in be provided for the LDAR requirements to allow operators time to purchase monitoring devices, conduct training, and establish protocols.

17.3.5 EPA Did Not Consider Impacts Of Travel To/From Sites By Trained Personnel (Costs And Environmental Impacts)

Oil and natural gas production operations, gathering and boosting facilities, as well as transmission and storage compressor stations are geographically dispersed. Costs and impacts need to consider the time associated with traveling to and from sites, vehicle and fuel costs, and resulting vehicle emissions to conduct recurring LDAR. A company may have a third party contractor or specific in-house person doing the OGI monitoring that is different from the person doing the repairs. Although the majority of leaks are repaired when detected, there would be additional driving costs and impacts for leaks that cannot be repaired immediately and for conducting the resurvey after leaks are repaired.

According to survey data provided by 9 companies subject to Colorado Regulation 7, the average annual number of miles driven per basin for leak detection monitoring is 28,000, and the average

annual transportation cost per basin is \$34,785. API members conducting voluntary LDAR programs indicated an average of 15,000 miles traveled per basin, with an average annual cost of \$20,000 per basin. These costs do not include purchasing additional vehicles to accommodate the required travel. Neither transportation costs nor costs for purchasing additional vehicles were included in EPA's evaluation of cost effectiveness.

17.3.6 Recordkeeping Costs Are Significantly Underestimated

The Colorado Regulation 7 record keeping requirements are not as stringent as the proposed model rule requirements. Based on survey data provided by 9 companies subject to Colorado Regulation 7, the average record keeping cost per basin is \$188,125 with a recurring average annual cost of \$39,444. That represents 41% of the average annual survey cost per basin.

Companies conducting voluntary LDAR surveys estimate their recording keeping costs at \$60,000. Additionally companies that maintain a copy of OGI records estimate the data storage burden to be approximately 102 MB per survey per well. These costs represent approximately 26% of the average annual recurring LDAR costs per basin. These costs were not included in EPA's evaluation of cost effectiveness.

17.3.7 EPA Significantly Underestimated The Costs Of Developing And Maintaining The Corporate And Site-Specific Monitoring Plans

CTG I.2 and I.5 list the reporting, and recordkeeping requirements. Section I.2 describes companies developing both corporate-wide and site specific fugitives emissions monitoring plans with the alternative of doing a site specific plan with elements of both the corporate-wide and site specific fugitives emissions monitoring plan requirements. EPA did not fully evaluate the complexities or the costs for developing and maintaining the proposed requirements.

EPA has not included in the cost effective analysis for leak detection and repair any of the significant costs for developing and maintaining both a corporate-wide and site specific plans, particularly with respect to EPA's expectation that component counts are to be included in the monitoring plan. The cost estimate of \$3,468 for the monitoring plan is greatly underestimated considering the great amount of detail required for the 2 different plans.

API member companies estimate the cost for developing a corporate monitoring plan to be \$7,200, and the cost to develop each site-specific monitoring plans to be \$120. Annual recurring costs to keep the plans up to date are estimated to range from \$1,000 to \$3,000.

To count and tag components at a compressor station, costs approximately \$10,000. In a study performed by an API member company which compared three basic leak detection methods: Audio, Visual, and Olfactory (AVO), OGI, and M21. M21 was already being conducted, the additional cost of component counts was \$15 to \$58 per site. However, if done in conjunction with an OGI survey, the cost would be substantially higher. API members estimate a cost of \$120 per well site to develop an initial component count (excluding travel costs), and a recurring annual cost of \$60/site.

In addition, EPA provided no provision for an area-wide monitoring plan. Section I.2 recommends that companies either have a corporate-wide fugitive monitoring plan or a site specific monitoring plan. EPA provides no other options such as area wide plans for an operations area or basin. However, the information required in each plan is so detailed and specific, it will make it very difficult to write a plan that covers the various pieces of information for each separate area such as:

- Technique for determining fugitive emissions.
- The manufacturer and model number of the fugitive emissions detection equipment to be used. – Different equipment may be used in each area and over time depending if done internally or by a contractor.
- Procedures and timeframes for identifying and repairing fugitive equipment components from which fugitive emissions are detected. This will vary based on whether leak detection is done internally or by a contractor and by area.
- Procedures and timeframes for verifying fugitive emission component repairs. This will vary based on whether leak detection is done internally or by a contractor and by area
- Verification of the optical gas imaging equipment - Different equipment may be used in each area and over time depending if done internally or by a contractor.
- Procedures for determining the maximum view distance from the equipment – Each area may have different facility designs such as enclosed portions of the facility due to cold weather and physical locations such as on sides of cliffs that could limit or constrain the viewing distances.
- Procedures for conducting surveys – May vary by area or whether it is being done by contractors or internally.
- Training and experience needed prior to performing surveys – May depend on the equipment being used or whether the surveys in the area are being done internally or by contractors.
- Procedures for calibration and maintenance – Will vary based on the various equipment used by the area or contractors.

In some locations a company may choose to use contract services and other areas the same company may choose to conduct the surveys with internal staff. In addition, the variations in the development plans for different production areas may dictate different monitoring approaches. For example, an old declining field in one part of the country may have no sites or only a few sites subject to NSPS OOOOa which may require a company to handle the program differently than in another part of the country where they are drilling 30 wells or more a year that would be subject to NSPS OOOOa.

In some locations a company may choose to use contract services and other areas the same company may choose to conduct the surveys with internal staff. In addition, the variations in the development plans for different production areas may dictate different monitoring approaches. For example, an old declining field in one part of the country may require a company to handle the program differently than in another part of the country where active drilling is taking place.

The proposed requirement for site-specific monitoring plans, including the requirement to specify a walking path for each site, is unnecessary and the requirements are onerous. Many times production areas do not have site maps developed for each site. Development of a sitemap would be solely for this rule. The cost of developing site maps for every site was not included in the cost evaluation for LDAR. Furthermore, the requirement to specify a walking path for each site is unnecessary for oil and natural gas well sites and compressor stations. The person conducting the survey must be trained and have the knowledge and ability to use the monitoring device.

The elements required in both plans are extensive, requiring a great amount of detail with no added benefit. EPA should not require both plans. Furthermore, it is unnecessary for the plan to require many of the detailed information EPA is requesting for the site specific plans since these are small, dispersed, unmanned well sites and compressor stations. EPA should allow companies to create area monitoring plans in place of site-specific plans or as an option for corporate wide plans. Proposed rule revisions to address these issues are provided in (refer to Section 17.3.9).

17.3.8 Fugitive Emissions Program for Gross Emitters

In the preamble for proposed NSPS Subpart OOOO and OOOOa (80 FR 56637), EPA indicated that commenters on the white papers agreed that emissions from equipment leaks exhibit a skewed distribution, and pointed to other examples of data sets in which the majority of fugitive methane and VOC emissions come from a minority of components (e.g., gross emitters). Based on this information, EPA solicited comment on whether the fugitive emissions monitoring program should be limited to "gross emitters".

"Notably, we further identified that many studies have shown a skewed distribution for emissions related to leaks, where a majority of emissions come from a minority of sources. Commenters on the white papers agreed that emissions from equipment leaks exhibit a skewed distribution, and pointed to other examples of data sets in which the majority of VOC emissions from leaks come from a minority of components. Commenters noted that emitters are likely due to random occurrences of low-probability but high-emissions conditions." (CTG 9.4)

As EPA acknowledges, a growing body of research indicates a skewed emissions distribution for fugitive emission sources, where a small number of sources are responsible for a high percentage of emissions. The fugitive emission monitoring program under OOOOa should be targeted towards identifying and correcting these high emitting sources which results in the greatest cost-effective reductions, and produces significant reductions in emissions more quickly. API data on the leaks identified from recurring LDAR surveys indicates that annual LDAR is sufficient for identifying and correcting the relatively few fugitive sources with very high emission rates.

17.3.9 Recommended Rule Text Revisions Based On Comments In This Section.

(CTG I.2)

For fugitive emissions, VOC emission control requirements apply to the collection of fugitive emission components at a well site, central production site, and transmission compressor station (that is located from the wellhead to the point of custody transfer to the natural gas transmission and storage segment or to an oil pipeline), as specified in paragraphs (a) through (e) of this section for monitoring the collection of fugitive emission components. These requirements are independent of the closed vent system and control requirements in section D.

(b) You must develop corporate-wide or area-wide fugitive emissions monitoring plan that covers the collection of fugitive emission components at well sites and compressor stations in accordance with paragraph (c) of this section, ~~and you must develop a site specific fugitive emissions monitoring plan specific to each collection of fugitive emission components at a well site and each collection of fugitive emission components at a compressor station in accordance with paragraph (d) of this section. Alternatively, you may develop a site specific plan for each collection of fugitive emission components at a well site and each collection of fugitive emission components at a compressor station that covers the elements of both the corporate wide and site specific plans.~~

(c) Your corporate-wide or area-wide monitoring plan must include the elements specified in paragraphs (c)(1) through (c)(8) of this section, as a minimum.

- (1) Frequency for conducting surveys. Monitoring surveys must be conducted at least as frequently as required by sections I.3 and section I.4 of this section.
- (2) Technique for determining fugitive emissions.
- (3) Manufacturer and model number of fugitive emission detection equipment to be used.
- (4) Procedures and timeframes for identifying and fixing fugitive emission components from which fugitives are detected, including timeframes for fugitive emission components that are unsafe to repair. Your repair schedule must meet the requirements of paragraph (e) of this section at a minimum.
- (5) Procedures and timeframes for verifying fugitive emission component repairs.
- (6) Records that will be kept and the length of time records will be kept.
- (7) Your plan must also include the elements specified in paragraphs (c)(7)(i) through (vii).

~~(i) Verification that your optical gas imaging equipment meets the specifications of paragraphs (c)(7)(i)(A) and (B) of this section. This verification is an initial verification and may either be performed by the facility, by the manufacturer, or by a third party. For purposes of complying with the fugitive emissions monitoring program with optical gas imaging, a fugitive emission is defined as any visible emissions observed using optical gas imaging.~~

~~(A) Your optical gas imaging equipment must be capable of imaging gases in the spectral range for the compound of highest concentration in the potential fugitive emissions.~~

~~(B) Your optical gas imaging equipment must be capable of imaging a gas that is half methane, half propane at a concentration of $\leq 10,000$ ppm at a flow rate of ≥ 60 g/hr from a quarter inch diameter orifice.~~

~~(ii) Procedure for a daily verification check.~~

~~(iii) Procedure for determining the operator's maximum viewing distance from the equipment and how the operator will ensure that this distance is maintained.~~

~~(iv) Procedure for determining maximum wind speed during which monitoring can be performed and how the operator will ensure monitoring occurs only at wind speeds below this threshold.~~

~~(iiiv) Procedures for conducting surveys, including the items specified in paragraphs (c)(7)(v)(A) through (C) of this section.~~

~~(A) How the operator will ensure an adequate thermal background is present in order to view potential fugitive emissions.~~

~~(B) How the operator will deal with adverse monitoring conditions, such as wind.~~

~~(C) How the operator will deal with interferences (e.g., steam).~~

~~(iiiiv) Training and experience needed prior to performing surveys.~~

~~(ivii) Procedures for calibration and maintenance. Procedures must comply with those recommended by the manufacturer.~~

~~(d) Your site specific monitoring plan must include the elements specified in paragraphs (d)(1) through (d)(3) of this section, as a minimum.~~

~~(1) Deviations from your corporate wide plan.~~

~~(2) Sitemap.~~

~~(3) Your plan must also include your defined walking path. The walking path must ensure that all fugitive emissions components are within sight of the path and must account for interferences.~~

Add to the definitions:

Optical gas imaging instrument means an instrument that makes visible emissions that may otherwise be invisible to the naked eye. Optical gas imaging equipment must be capable of imaging gases in the spectral range for the compound of highest concentration in the potential fugitive emissions imaging a gas that is half methane, half propane at a concentration of >10,000 ppm.

17.4 Work Practices/Inspections

17.4.1 Requiring An Initial Survey Requirement Within 30 Days Of Becoming Subject To The CTG Is Not Appropriate For A Number Of Reasons.

“(a) Each well site with a collection of fugitive emissions components must conduct an initial monitoring survey within 30 days of being subject to VOC emission control requirements of section I.

(b) Each compressor station site with a collection of fugitive emissions components must conduct an initial monitoring survey within 30 days of being subject to VOC emission control requirements of section I.2.” (CTG Appendix I.3)

There are numerous problems with this requirement both in the language chosen to describe the requirement as well as the unique technical issues that arise as a result of trying to define a well site as something other than a surface site with a well. First, within 30 days of first well completion is inappropriate, as production doesn't always begin immediately after a well completion if for example gathering infrastructure is not yet available or construction of production facilities such as storage vessels, separators, heaters and control devices are not yet complete. There may also be use of temporary equipment because of well flow problems while trying to startup production or while permanent facility construction is being completed. Instead this requirement needs to be tied to the startup of production to be consistent with other requirements in the rule such as for storage vessels.

Within the first 30 days of startup of production, production rates for wells are evaluated to determine whether any storage vessels will be affected facilities. If so, control devices are required to be constructed and operational within 60 days from startup. As well, the first 30 days may exempt a wellsite altogether if production is less than 15 BOE/day. The point is that the first 30 days of production is an evaluation period for applicability of requirements, the second 30 days is allowed to complete construction of any required emissions control and closed vent system. And that is for true well sites with wells. The problem gets more complex by including central tank batteries in the definition of a wellsite rather than having its own definition as being part of a central production site that we recommended in Section 0.

Consider this realistic scenario. An operator wants to develop a new field of 20 wells that are planned to be drilled in succession, with potential plans to drill more. It is determined that it makes sense to construct a central tank battery that will become defined as a well site upon first production that will grow in size as each new well begins production and is aggregated to the central tank battery wellsite. The central tank battery is completed to enable startup of production of the first well with a capacity to eventually handle all 20 wells.. After startup of the battery, semi-annual leak monitoring is required within 30 days and is completed and leaks repaired. Shortly thereafter, the second well comes online and starts production to the central battery well site, and is a wellhead only site. Now, according to the CTG, the central battery must be surveyed

again a month after the initial survey because of the new well. This time no leaks are found. This 30 day monitoring pattern continues until all 20 wells are completed and will continue if more wells are immediately added or first wells are refractured for any reason. The wellhead only sites are also monitored each time since they are part of the central battery well site.

The point of the scenario is that the wellsite definition is not workable in terms of the how the initial monitoring requirements have been designed in this proposal. Instead of monitoring a central tank battery initially, then semi-annually, to hopefully annually as currently conceived in the proposal, the central production site and all wells tied into it will have to undergo monitoring at an unpredictable frequency based on changes that don't occur at the battery but rather wells tied into it. The battery will always require initial well monitoring as will all the wells tied to it within 30 days each time a new well is added or refracture occurs at an existing well. This is overly burdensome and costly. Again, API recommends dissociating central batteries from the well site definition to avoid this situation.

Instead of 30 days, the time period for the initial survey should be within 180 days after startup of production to allow sufficient time for completion of construction and the startup period, and scheduling the new site into the area leak detection plan. After the initial 60 days to complete construction of the control device, an additional 120 days should be allowed to work monitoring of the well into the next scheduled monitoring period that would include all the wells in the area. Calling out a contract crew to monitor one remote well site, when in a matter of a few weeks or couple months they may already be scheduled to monitor an entire area is not a cost efficient use of manpower. Such inefficient use of resources could put undue pressure on availability of crews for all operators.

Suggested regulatory revisions are provided at the end of this section (see Section 17.4.13).

17.4.2 API Members Find That Recurring LDAR Has A Diminishing Return.

EPA solicited comments on requiring monitoring survey on a quarterly basis. API members find that recurring LDAR has a diminishing return [currently proposed as semiannually]. The first survey identifies and corrects most of the leaks, but significantly fewer leaks are identified in subsequent surveys. The Colorado Regulation 7 data reduction assumptions are based on an assumption that annual inspections will yield an annual leaking component rate of 1.18%, 1.77% for facilities with quarterly inspection and 2.26% for facilities with monthly inspection schedules. These assumptions were based on the chemical manufacturing industry (Subpart VV) and do not fit with the LDAR data observed in the upstream oil and natural gas industry. API companies conducting voluntary LDAR programs have observed much lower initial leak rates, ranging from 0.18% to 0.84% leaks per component for annual LDAR.

Quarterly monitoring may not be possible in all areas. For example in some areas, particularly in western mountainous areas, winter weather makes it difficult to visit well sites that can be remote and widely scattered. It also may not be possible to utilize OGI methods in winter conditions, since visual detection of leaks requires a temperature difference between the leak and ambient air. Test data presented in Table 4-13 of EPA's draft Technical Support Document (TSD) *Optical Gas Imaging Protocol (40 CFR Part 60, Appendix K)*³⁹ shows that 5,000 ppm leaks were detected

³⁹ Reference: *Draft Technical Support Document for Optical Gas Imaging Protocol (40 CFR 60, Appendix K)*, Revision No. 5, August 11, 2015, EPA Contract No. EP-D-11-006 by Eastern Research Group, Inc., available at

with delta temperatures between the gas leak and background of around 1.4 to 1.9°C (2.5 to 3.4°F). However, the delta temperature is highly dependent on other factors, such as the wind conditions, hydrocarbon concentration, and mass emission rate.

In addition, even EPA's cost analysis found that the cost of monitoring/repair based on quarterly monitoring at well sites using OGI is not cost-effective for reducing VOC and methane emissions. Per page 56636 of FR version, EPA indicates: "In a previous NSPS rulemaking [72 FR 64864 (November 16, 2007)], **we had concluded that a VOC control option was not cost-effective at a cost of \$5,700 per ton.** In light of the above, we find that the cost of monitoring/repair based on quarterly monitoring at well sites using OGI is not cost-effective for reducing VOC and methane emissions under either approach."

17.4.3 API Advocates A Fixed Initial Annual Frequency, Regardless Of The Percent Of Leaking Components.

EPA solicited comment on the proposed metrics of one percent and three percent and whether these thresholds should be specific numbers of components rather than percentages of components for triggering change in survey frequency discussed in this action.

"We recommend that the monitoring frequency be increased to quarterly in the event that two consecutive semiannual monitoring surveys detect fugitive emissions at 1.0 percent or more of the fugitive emissions components at a well site or at 1.0 percent or more of the fugitive emissions components at a compressor station. We also recommend that the monitoring frequency be decreased to annual in the event that two consecutive semiannual surveys detect fugitive emissions at less than 1.0 percent of the fugitive emissions components at a well site, or at less than 1.0 percent of the fugitive emissions components at a compressor station. We also recommend that you require that the monitoring frequency return to semiannual if an annual survey detects fugitive emissions between one and three percent of the fugitive emissions components at the well site, or between one and three percent of the fugitive emissions components at the compressor station, and return to quarterly if a survey detects fugitive emissions at greater than three percent of the fugitive emissions components at the well site, or greater than three percent of the fugitive emissions components at the compressor station." (CTG 9.5.1)

API does not support the proposed metrics of one percent and three percent of components, respectively, as these metrics require maintaining a count of all fugitive components. API advocates a fixed initial annual frequency, regardless of the percent of leaking components.

To count and tag components at a compressor station, costs ~\$10K and requires continual ever-greening. In a study performed by an API member company which compared three basic leak detection methods: AVO, OGI, and M21, component counts were made by a manual observer while on site. Because M21 was already being conducted, the additional cost of component counts was \$15 to \$58 per site. However, if done in conjunction with an OGI method, the cost would be substantially higher because individual components need not be individually located for the purposes of OGI monitoring. API companies estimate a cost of \$120 per well site to count

components initially, with a recurring cost of \$60 per well site to validate and update the counts annually.

17.4.4 Having The Same Frequency Of Monitoring As EPA's NSPS OOOOa Will Be Far Too Burdensome With The Large Number Of Existing Sites Which Are Almost All Unmanned, Dispersed Locations.

The draft August 2015 CTG (EPA-453/P-15-001) proposes semiannual fugitives monitoring of well sites greater than 15 boe/day and gathering/booster stations as RACT (page 9-31). The cost data presented in Table 9-11 shows a cost of \$8,069/ton of VOC reduction for annual OGI inspections, while Table 9-12 shows a cost of \$9,124/ton of VOC reduction for semi-annual OGI inspections. Despite a cost difference of \$1,055/ton of VOC reduction or only 12.3% difference, EPA proposes semiannual OGI inspections as RACT. The small cost difference (based on EPA's analysis) between annual and semi-annual inspections does not justify the semi-annual inspections.

Also, the cost data on page 9-19 of the August 2015 CTG shows an OGI contractor cost estimate of \$600 for a well site and \$2,300 for a gathering/booster station, and repair costs of \$299 for well sites and \$3,436 for gathering/booster stations assuming 1.18% of the components leak and 75% are repaired online and 25% are repaired offline. EPA estimated the cost for resurveying components after offline repair based on \$2.00 per component resurveyed and the assumption that a company purchases M21 instrumentation for \$10,800 and is able to perform the resurveying without needing contractors. EPA assumed annual reports would take one person a total of 4 hours to complete at a cost of \$231.

For comparison purposes, the costs from the Colorado Regulation 7 survey data were the following: OGI survey by contractor - \$200-400 per well site, \$1,321 for gathering/booster stations; excludes equipment rental, which is approximately \$250 per site; Repair costs - \$200 for well sites; Annual reports - \$4,370 average annual report for a company's basin (note that Regulation 7 reports are required on a basin basis).

EPA assumes companies will use a third party for monitoring at \$600 per site and does not include estimated costs for a company to buy and maintain a camera of their own (higher capital cost) or supervisory costs. In the report "Economic Analysis of Methane Emission Reduction Opportunities in the U.S. Onshore Oil and Natural Gas Industries" (March 2014, Prepared for Environmental Defense Fund by ICF International) a more representative cost analysis includes the camera purchase costs as well as transportation and recordkeeping, resulting in an annual cost of \$191,000 (compared to \$4,031 in the EPA OOOOa TSD, assuming quarterly OGI inspections as presented in Table 5-19). This analysis was updated in 2014 in which the annual cost (including cost of repairs inadvertently omitted from the previous analysis) was \$193,000.

17.4.5 Proposed Approach To Allow Reduction In Monitoring Frequency Forces The Need To Develop Component Counts For Each Well Site In Order To Properly Document The Percentage Of Leaking Components. This Is Inconsistent With Subpart W Monitoring Program For Transmission And Storage.

"We recommend a monitoring survey of each collection of fugitive emissions components at a well site and collection of fugitive emissions components at a compressor station be conducted at least semiannually after the initial survey and that consecutive semiannual monitoring surveys be conducted at least four months apart. We recommend that the monitoring frequency be increased to quarterly in the

event that two consecutive semiannual monitoring surveys detect fugitive emissions at 1.0 percent or more of the fugitive emissions components at a well site or at 1.0 percent or more of the fugitive emissions components at a compressor station. We also recommend that the monitoring frequency be decreased to annual in the event that two consecutive semiannual surveys detect fugitive emissions at less than 1.0 percent of the fugitive emissions components at a well site, or at less than 1.0 percent of the fugitive emissions components at a compressor station. We also recommend that you require that the monitoring frequency return to semiannual if an annual survey detects fugitive emissions between one and three percent of the fugitive emissions components at the well site, or between one and three percent of the fugitive emissions components at the compressor station, and return to quarterly if a survey detects fugitive emissions at greater than three percent of the fugitive emissions components at the well site, or greater than three percent of the fugitive emissions components at the compressor station.” (CTG 9.5.1)

API does not support the proposed metrics based on a direct count of all fugitive components, which can be time consuming and costly. If EPA elects to use a component count, API recommends that a simplified approach, such as the 40 CFR98 Subpart W upstream component count approach would be used [specified in §98.233(r)]; that method only requires a count of major pieces of equipment, which are combined with EPA assumptions on component counts per equipment.

See Section 17.3.8 regarding API's preference for annual monitoring.

17.4.6 API Opposes Performance-Based Frequency

EPA solicited comment on whether a performance-based frequency or a fixed frequency is more appropriate. API does not support a performance based approach. Tracking sites based on performance criteria is unnecessary and complex. A fixed annual frequency is sufficient for detecting and repairing leaks, as indicated in the comment above, and simplifies compliance. API members find that recurring LDAR has a diminishing return. The first survey identifies and corrects most of the leaks, but significantly fewer leaks are identified in subsequent surveys. API advocates a fixed annual frequency, regardless of the percent of leaking components.

17.4.7 API Suggests 30 Days An Appropriate Amount Of Time For Repair Of Sources Of Fugitive Emissions At Well Sites

EPA solicited comment on whether 15 days is an appropriate amount of time for repair of sources of fugitive emissions at well sites. Many leaks detected can be repaired on site with simple tightening of screwed connections, or replacement of small components carried by the maintenance team, when authorized maintenance personnel are available around the time of the survey. Fifteen days is adequate in these circumstances. However a few leaks require more time to repair due to safety issues, availability of replacement parts, availability of maintenance personnel, weather conditions, or other issues related to the sites being remote, dispersed, and unmanned facilities. Recent data from Colorado's Regulation 7 indicate that about 5% of

identified leaks required a delay of repair.⁴⁰ It is more reasonable to allow 30 days to do the repairs.

Proposed text revisions are provided in Section 17.4.13.

17.4.8 The current proposal does not allow for multiple attempts to repair identified leaks

In the proposed model rule, EPA requires discovered leaks to be repaired within 15 days. Multiple attempts to repair may be required to repair such that 15 days is not be adequate to make a successful repair. Provisions are needed to allow for occurrences where complex leaks cannot be fixed within 15 days. These may be situations where additional engineering and analysis is required to develop the safe and correct solution to repair the leak. There needs to be sufficient regulatory flexibility to address instances where several repair attempts are needed until the leak is repaired.

EPA should provide appropriate provisions to accommodate situations where multiple attempts are required to repair a leak. Proposed text revisions are provided in Section 17.4.13.

17.4.9 Forcing All Repairs Within 6 Months Is Unreasonable Due To True Cost Impacts

A minority of detected leaks require more time to be repaired because they require a full shutdown of the well in order to do the repair. For example, recent data from Colorado's Regulation 7 indicate that about 5% of identified leaks required a delay of repair.⁴¹ Repairs on the well head itself require full shutdown of the well. Some repairs require a workover of the well. Also, many companies do not allow hot work to be performed on the well site due the risk of explosion or fire. The well must be shut in and the equipment purged in order to do any hot work such as welding for repairs. Many different issues must be assessed before a well is shut in and equipment purged for repairs. Shutting down the well could result in losing the well completely or damage to the formation that can reduce production. The emissions from shutting in the well and purging the equipment could result in more emissions than are being released from the leak. Also, EPA did not consider the cost of lost production during repairs in the cost analysis for fugitive leaks which can be significant.

Some repairs at compressor stations require the compressor station to be shut in which could require shutting in all the wells that feed into the compressor station as well. Most compressor stations in the gather system do not have a way to by-pass the compressor or parts of the system so work can be done. Bringing down the compressor station could result in shutting in parts of a field and losing the production from that portion of the field which is a huge cost.

The unreasonableness of the requirement to repair a leak within 6 months is even more apparent when applied to integrated production arrangements such as those on the North Slope of Alaska. Fields on the North Slope are arranged with multi-well pads feeding into a small number of centralized production stations where primary separation and some pre-treating and compression of gas occurs. Gas from these central production stations is routed to a gas processing facility, oil to the Trans-Alaska Pipeline, and produced water to reinjection. Dependent on where a leak occurs in this integrated production arrangement repairing a leak within 6 months may necessitate

⁴⁰ Colorado Air Quality Control Commission, Public meeting on October 15, 2015.

⁴¹ Colorado Air Quality Control Commission, Public Meeting on October 15, 2015.

shutting down an entire section of a field feeding a particular central production station or perhaps a series of central production stations. Given the geographic and seasonal realities of the Alaskan North Slope, oil and gas operators schedule large separation facilities shutdowns during the summer months. With the litany of plausible scenarios that could result in a separation facility being required to shut down in order to fix a leak in late fall, winter, and early spring, such shutdowns will result in greater safety and integrity concerns. In addition, the flaring of between 250,000 MMscf and 500,000 MMscf of gas during shutdowns may be an unintended and unavoidable consequence of the proposed rule. Simply stated, the emissions release associated with shutting down a production facility; shutting in and freeze protecting wells; and depressuring and purging the necessary equipment will result in far greater emissions than are being released from the leak that could be repaired during the next scheduled process shutdown. In addition to the increased safety concerns and counter-productive flaring, implementing the repair requirements as currently drafted will also result in severe economic repercussions. Every day of a non-scheduled or non-summer shutdown will result in millions of dollars in lost revenue for the State of Alaska and the operators. Dependent on the length and extent of the shutdown required and difficulty restarting the wells and facilities, taking such an action may impact the domestic US supply of crude oil, particularly in the West Coast markets where most Alaska crude is shipped. It is clear that EPA did not contemplate such potential wide ranging and large impacts when considering the requirement for repair of a leak within 6 months. Although the North Slope is an extreme example due to the unique climate realities, similar impacts would occur on a smaller scale for other integrated production arrangements.

EPA should allow for delay of repair of fugitive components until the next shutdown. EPA has allowed for delay of repairs beyond 6 months and OOOOa should be less stringent than what is required under NSPS Subpart VVa. Subpart VVa under §60.482-9a allows for the following delay of repairs and NSPS OOOOa should allow for equivalent delay of repair:

- §60.482-9a (a) *Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit.*
- (b) *Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.*
- (c) *Delay of repair for valves and connectors will be allowed if:*
- (1) *The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and*
 - (2) *When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §60.482-10a.*
- (d) *Delay of repair for pumps will be allowed if:*
- (1) *Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and*
 - (2) *Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.*
- (e) *Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.*

- (f) *When delay of repair is allowed for a leaking pump, valve, or connector that remains in service, the pump, valve, or connector may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition."*

API was unable to gather and provide the typical times between shutdowns of well sites and compressor stations due to the short comment period on this rule.

Proposed text revisions are provided in Section 17.4.13.

17.4.10 Thresholds for M21 Leak Definition and Repair.

EPA requested comment on whether the fugitive emissions repair threshold for M21 monitoring surveys should be set at 10,000 ppm or whether a different threshold is more appropriate (including information to support such threshold). EPA also solicits comment on whether 500 ppm above background is the appropriate repair resurvey threshold when M21 instruments are used or if not, what the appropriate repair resurvey threshold is for M21.

Tables 9-14, 9-15, and 9-16 of the CTG draft show the summaries of the cost of control for VOC at each of the repair thresholds (i.e., 10,000, 2,500, and 500 ppm) for the three monitoring frequency options (i.e., annual, semiannual, and quarterly).

If M21 is used to repair the leak, then the leak definition should instead be 10,000 ppm instead of 500 ppm. A leak definition of 10,000 ppm is consistent with the leak definition used in NSPS Subpart KKK for valves at natural gas processing plants, which references NSPS Subpart VV. Also, OGI monitors detect leaks at approximately 10,000 ppm. In addition, API demonstrated in comments provided to Docket ID Number EPA-HQ-OAR-2010-0505 (Proposed Rulemaking – Oil and Natural Gas Sector Regulations Standards of Performance for New Stationary Sources: Oil and Natural Gas Production and Natural Gas Transmission and Distribution, November 30, 2011) that there is only a small incremental difference in emission reductions between a leak definition of 500 ppm and 10,000 ppm.

Based on data in a leak detection study that compared M21 to FLIR, approximately 85% of FLIR-found-leaks were over 0.1 scfh, as quantified by HiFlow. Using the correlation equation from the 1995 Protocol for Equipment Leak Emission Estimates and the average density of the field gas in the corresponding asset areas, 10,000 ppm corresponds to a leak rate range of 0.07 to 0.15 scfh depending on the component type leaking. Based on this, the study found that approximately 70% of FLIR-found-leaks were over 10,000 ppm.

Therefore, consistent with the valve leak detection provided in NSPS Subparts KKK and VV, and given that OGIs typically detect leaks over 10,000 ppm, the repair leak threshold should be set at 10,000 ppm.

Proposed text revisions are provided in Section 17.4.13.

17.4.11 API Supports Flexibility In The Methods Allowed For Resurveying Repaired Components.

"We recommend the implementation of a monitoring plan that includes semiannual monitoring using OGI and repair of components that are found to be leaking at well sites and compressor stations." (CTG 9.4)

EPA solicited comments on whether either optical gas imaging or M21 should be allowed for the resurvey of the repaired components when fugitive emissions are detected with OGI. API supports flexibility in the methods allowed for resurveying repaired components. EPA should allow for the use of M21, OGI, or infrared laser beam illuminated instruments. In particular, M21 is preferred, as Section 8.3.3 of M21 allows the use of soap bubbles.

17.4.12 Monitoring Each Fugitive Component for Emissions

CTG I.2(e) – EPA is requiring that “*Each monitoring survey shall observe each fugitive emissions component for fugitive emissions.*” Having to look at each component with an OGI system is extremely time consuming. Furthermore, it is not necessary to look at each component for leaks with the OGI equipment. From a scan around the facility you should be able to easily see if there are any leaks, and then if there are, move in to identify the exact location of the leak. OGI does not work like M21 where you have to sniff each component to determine if it is leaking.

Also, it is not always feasible to look at each component. Several locations in the North have equipment inside buildings with components next to the wall making getting to each component with OGI equipment impossible. . Here is an example of what the sites look like:

Figure 17-1 Picture of Equipment Building



API recommends making this requirement more in line with how OGI equipment works and the fact that each component does not need to be scanned to require that each piece of equipment with fugitive monitoring components be observed. For instance, observe the separator or well head for leaking components.

Proposed text revisions are provided in Section 17.4.13.

17.4.13 Recommended Text Revisions Related To Work Practices/Inspections:

I.2(e) Each monitoring survey shall observe each piece of equipment with fugitive emissions components for fugitive emissions.

I.2(f)(1) Each identified source is required to monitor fugitive emission components as specified in section I.3 and I.4. Identified fugitive emissions shall be repaired or replaced as soon as practicable, ~~but~~ no later than 4530 calendar days after detection of the fugitive emissions. Where delays in acquiring replacement parts prevent completion of repairs

within 30 days, repairs must be completed within 30 days of acquiring parts. If the repair or replacement is technically infeasible or unsafe, or shutdown emissions are larger than what would be reduced to repair during operation of the unit, to repair during operation of the unit, the repair or replacement must be completed during the next scheduled shutdown or within 6 months, whichever is earlier.

(2) Each repaired or replaced fugitive emissions component must be resurveyed as soon as practical, but no later than 1530 days after completion of the repair or replacement, to ensure that there is no leak.

(i) For repairs that cannot be made during the monitoring survey when the fugitive emissions are initially found, the operator may resurvey the repaired fugitive emissions components using M21 or optical gas imaging no later than 1530 days of finding such fugitive emissions.

(ii)(A) A fugitive emissions component is repaired when the M21 instrument indicates a concentration of less than 50010,000 ppm above background.

I.3(a) Each well site with a collection of fugitive emissions components must conduct an initial monitoring survey within 30180 days of being subject to VOC emission control requirements of section I.

(b) Each compressor station site or central production site with a collection of fugitive emissions components must conduct an initial monitoring survey within 30180 days of being subject to VOC emission control requirements of section I.2.

(a) A monitoring survey of each collection of fugitive emissions components at a well site, a central production site, and a compressor station site subject to VOC emission control requirements under section I shall be conducted at least semiannually after the initial survey. Consecutive semiannual monitoring surveys shall be conducted at least nine four months apart.

~~(b) The monitoring frequency specified in paragraph (a) of this section shall be increased to quarterly in the event that two consecutive semiannual monitoring surveys detect fugitive emissions at greater than three percent of the fugitive emissions components at a well site or at greater than three percent of the fugitive emission components at a compressor station subject to VOC emission control requirements under section I.~~

~~(c) The monitoring frequency specified in paragraph (a) of this section may be decreased to annual in the event that two consecutive semiannual surveys detect no fugitive emissions at less than one percent of the fugitive emissions components at the well site, or less than one percent of the fugitive emissions components at a compressor station subject to VOC emission control requirements under section I. The monitoring frequency shall return to semiannual if a annual survey detects fugitive emissions between one and three percent of the fugitive emissions components at the well site, or between one and three percent of the fugitive emissions components at the compressor station, and shall return to quarterly if a survey detects fugitive emissions at greater than three percent of the fugitive emissions components at the well site, or greater than three percent of the fugitive emissions components at the compressor station.~~

17.5 Testing And Monitoring

17.5.1 EPA Should Provide Flexibility And Allowance For Technology Development.

Ongoing Research and Development Activities

The scale up of LDAR activities under the draft rule provides a strong incentive to bring down costs while enhancing leak detection effectiveness, and is already stimulating a substantial increase in R&D investment, as EPA notes in its proposal. We call to the Agency's attention two ongoing initiatives that aim to develop improved LDAR technologies for use by companies as they seek to comply with federal and state methane emissions reduction requirements: a public-private initiative and a partnership between a number of corporate actors and an environmental non-governmental organization. These initiatives may well demonstrate within the next several years, the commercial availability of substitute technologies, equipment and approaches that are more efficient and cost-effective than the continued use of M21 or OGI.

Department of Energy (DOE)/ Advanced Research Projects Agency – Energy (ARPA-E)

As of December 16, 2014, ARPA-E had selected eleven private sector projects involving methane observation networks with innovative technologies to obtain methane emissions reductions that would receive awards totalling some \$35,000,000, (MONITOR Program). The objective is to catalyze and support the development of transformational, high impact energy technologies that can effectively promote methane emissions reduction. DOE's aim is to lower the cost of compliance through the development of low cost detection systems coupled with advanced modelling capabilities to pinpoint and quantify - major leaks and engage in mitigation prioritization with a focus on larger emitters. The proposed rule's approach, consistent with current technology, relies on detection alone as the criteria to define the need for repair without any prioritization based on the size of the leak. Generally the thrust of the work being supported by ARPA-E does not look at leaks from individual components, but will lead to examination of larger areas to identify significant leaks which can then be specifically identified and repaired.

ARPA-E is planning within 6-7 months to set up a testing facility intended to serve as a site for field tests to ensure that technologies are tested in a standardized, realistic environment outside of the laboratory. This would be followed by a second round of testing to assess previously undemonstrated capabilities and further technical gains. ARPA-E believes some of these technologies could become commercially available in from 2-3 years. The goal within 18 months to 2 years is to develop a methodology to demonstrate the superiority of one or more of these technologies to OGI that do not require the manpower, the fleets of trucks and other equipment and surveys that are time-consuming to undertake and dwarf the cost to the regulated community even of an expensive FLIR camera (\$90,000). Each of ARPA-E's partners will need to demonstrate it can bring the costs down to \$3,000 per site per year (many of which have multiple wells). The hope and expectation is that costs will be significantly lower, going down as to as little as \$1,000 per site.

EDF Methane “Detectors Challenge” (MDC)

In June 2014, the Environmental Defense Fund (EDF) along with five private sector partners issued a request for a proposal intended to target innovators from universities, start-up companies, instrumentation firms, and diversified technology companies among others to develop continuous methane leak detection monitoring for the oil and natural gas industry. They also sought expressions of interest in becoming part of the lab and field tests that would lead to pilot

purchases and testing at oil and natural gas facilities. The initiative is intended to catalyze and expedite development and commercialization of low-cost, methane detection technologies that will help minimize emissions in the oil and natural gas industry. MDC is based upon the belief that shifting the methane emission detection paradigm from periodic to continuous will allow leaks to be found and fixed, more readily decreasing methane emissions significantly. The ideal system would serve as a “smart” alarm sending an alert to an operator when an increase in ambient methane is detected that reflects emissions beyond what one would normally expect to see. The “MDC program refers to cost as a critically important factor and EDF and its partners sought out technologies that could reasonably be expected to be sold for roughly \$1,000 or less per well pad (or compressor site) when produced at scale over the following 2-5 years.

The MDC commenced with a set of laboratory tests of five different sensor technologies in 2014, called “Phase 1.” Four of these five technologies were selected for further development and assessment in a follow-up effort referred to as “Phase 2” which tested each technology developer’s entire system in controlled laboratory and outdoor settings in order to ensure that the systems performed as required prior to moving into industry pilots, which is the immediate next step.

We urge EPA to stay abreast of technological developments and closely track the results of research and testing through an open dialogue with experts in the private sector and government.

Recommendations

An optical gas imaging (OGI) instrument is defined in 40 CFR 60.18(g)(4) as “... an instrument that makes visible emissions that may otherwise be invisible to the naked eye.” EPA’s Technical Support Document (TSD) for Optical Gas Imaging Protocol (40 CFR Part 60, Appendix K)⁴² provides a summary of the current state of the technology for two commercially available OGI cameras, the FLIR GF320 and Opgal EyeCGas, to detect equipment fugitive leaks by infrared thermographic imaging.

EPA should allow any new technology to be used that is equivalent to OGI or M21 in detecting fugitive leaks. Such new technologies should not be limited to meeting EPA’s current definition of OGI (i.e. “... an instrument that makes visible emissions that may otherwise be invisible to the naked eye.”). In addition, since OOOOa is not a quantification rule, such new technologies need only demonstrate that they can detect leaks; they do not need to quantify leaks.

17.5.2 The Regulation Should Allow Flexibility In The Methods Used To Detect Fugitive Emissions

The Agency has asked for comment on “criteria we can use to determine whether and under what conditions well sites operating under corporate fugitive monitoring programs can be deemed to be meeting the equivalent of the NSPS standards for well site fugitive emissions such that we can define those regimes as constituting alternative methods of compliance or otherwise provide appropriate regulatory streamlining.”

⁴² Reference: *Draft Technical Support Document for Optical Gas Imaging Protocol (40 CFR 60, Appendix K)*, Revision No. 5, August 11, 2015, EPA Contract No. EP-D-11-006 by Eastern Research Group, Inc., available at <http://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2010-0505-4949&disposition=attachment&contentType=pdf>

A study performed by an API member company compared three basic leak detection methods: AVO, OGI, and M21. In general, the M21 approach was the most labor and time intensive, and, therefore, the most costly. FLIR methods could be implemented for less than 20% of the cost of M21 approaches. The results showed that AVO, while the least costly method, was not generally effective when compared to M21. On average, AVO found only 9% of the well pad leaks found by M21, and only 12% of the well pad site emissions calculated from M21 leaks. At the compressor station, because of the high ambient noise and close proximity of equipment, AVO method was not effective at all, and found 0% of the leaks found by M21 methods. The FLIR technique, on the other hand, was more effective.

- At well pads, FLIR finds 41% of leaks found by any method, but FLIR finds 89% of the total well pad emissions identified by any method (i.e. FLIR finds more of the larger leaks). It is also important to note that FLIR finds additional leaks not found by M21. Conversely, M21 finds 89% of the leaks, but only 31% of the total emissions (i.e. M21 finds more of the smaller leaks).
- At compressor stations, FLIR finds 46% of all leaks found by any method, but FLIR finds 96% of the total compressor station emissions identified by any method. It is also important to note that FLIR finds additional leaks not found by M21. Conversely, M21 finds 75% of the leaks, but only 15% of the total emissions.

Although AVO was not effective in this particular study, there are locations with high H₂S concentrations where AVO is more effective than M21. Sites with high levels H₂S should be allowed to use AVO or H₂S monitoring systems to identify leaks at well pads.

17.5.3 Characterizing Performance Using Laser Technology

Subpart W allows the use of an infrared laser beam illuminated instrument for equipment leak detection [§98.234(a)(3)]. Any emissions detected by the infrared laser beam illuminated instrument is a leak unless screened with M21 monitoring, in which case 10,000 ppm or greater is designated a leak. However, since the CTGs do not require quantification, API does not advocate establishing a specific ppm threshold for determining a leak.

17.5.4 A Streamlined Approval Process Is Needed For Alternative Technologies As These Technologies Become More Prevalent.

EPA should build into its final rule an “on-ramp” that provides an alternative path for rapid substitution of new detection equipment and monitoring strategies once they are validated and shown to be effective. This should include a fast-track review process, with firm deadlines for decision-making so that alternatives to the current LDAR requirements can be approved without time-consuming amendments to the NSPS.

As a general matter, the rule should seek to establish a more streamlined “fast-track” process for approving new detection technology that can be substituted in lieu of OGI equipment whether its use does not require modification of the LDAR protocol, or is an entirely new approach (continuous monitoring).

Where a new technology has been adequately field tested and validated through the ARPA-E MONITOR or another program and meets performance specifications outlined by EPA, the rule should authorize its deployment following a review by the Agency. The review should be completed within 180-days following submission of a complete data package by the technology developer or an oil or gas company the Agency, and the technology should be deemed approved

for use unless it is disapproved by the Agency within that period. This deadline should be included in the rule itself to assure expedited action.

Detection level "equivalency" should not be required as EPA has required for using OGI versus M21. Because new detection equipment may have very different capabilities from existing technologies, it is critical to avoid a narrow "equivalence test for approving alternative methods. Moreover, the stringency of the process and "equivalency" testing has made it impossible to get other technologies approved. The excessive requirements EPA has put under the Alternative Leak Detection Program in §60.18(g) has made it so that no company is utilizing OGI.

Colorado Regulation 7⁴³ provides a process for approving new alternative Approved Instrument Monitoring Methods (AIMM) that could serve as a basis for OOOOa:

At a minimum, the technology must be able to pinpoint the general location of leaking or venting emissions. For non-quantifying devices, the device must be capable of detecting all hydrocarbons, and testing and certification must be repeatable. Colorado Regulation 7 also requires an indication of limitations, other applications, how the device works, how it will be used, the process for recordkeeping, and training required. Colorado Regulation 7 may also require comparative monitoring with either an IR Camera or M21.

API recommends that EPA allow for the use of alternative monitoring that detects leaks based on the following criteria:

- Occurs at least annually
- Pinpoints the general location of the leak
- Detects the hydrocarbons found at the sites
- Testing and certification must be repeatable
- Indication of limitations, other applications, how the device works, how it will be used, the process for recordkeeping, and training required.

17.5.5 Comment On Whether To Allow EPA M21 As An Alternative To OGI For Monitoring, Including The Appropriate EPA M21 Level Repair Threshold

The draft CTG implies that the initial leak surveys must be taken using an OGI. We recommend revising the requirements to specifically state that OGI, M21, or an equivalent method may be used for both the initial survey and repair leak surveys.

In addition, EPA should allow the use of soap bubbles for leak detection, since EPA approves M21 for repair confirmation and emissions quantification is not required. According to Section 8.3.3 of M21, leaks may be screened using the presence of soap bubbles. If bubbles are not observed, then the source is assumed to have no detectable emissions under M21. EPA allows the use of 8.3.3 for other industries including chemicals and refining. It should be allowed here too. The leaks may not be repaired by the same person doing the leak survey. Allowing the soap

⁴³ <https://www.colorado.gov/pacific/sites/default/files/AP-BusIndGuidance-AIMMprocessmemo.pdf>

bubble test would allow the person doing the repair to check the repair without requiring the leak survey person to have to go out to the site for a second time. This would reduce the time and expense required for doing repairs.

17.6 Reporting And Recordkeeping

17.6.1 The CTG Should Not Require A Separate Report For Each Well Site.

CTG I.5 (b) Annual reports shall be submitted for each collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a compressor station subject to VOC emission control requirements under section I that include the information specified in paragraph (a) of this section for each monitoring survey conducted during the year. Multiple collection of fugitive emissions components at a well site or collection of fugitive emissions as a compressor station subject to VOC emission control requirements under section I may be included in a single annual report.

API interprets "each collection of fugitive emissions components" to refer to a single LDAR survey at a well site or compressor station. The requirement to provide a separate report for each well site, even where the report can combine multiple emission surveys at a well site, is onerous. API requests the option to combine reports for multiple wells sites or compressor stations submit the combined reports in one annual report.

17.6.2 The Requirement For Capturing Photo / Image Of Leaker Is Onerous And Of Limited/No Value.

CTG I.5(a)(6)(ii) One or more digital photographs of each required monitoring survey being performed. The digital photograph must include the date the photograph was taken and the latitude and longitude of the well site or compressor station subject to VOC emission control requirements under section I imbedded within or stored with the digital file. As an alternative to imbedded latitude and longitude within the digital photograph, the digital photograph may consist of a photograph of the monitoring survey being performed with a photograph of a separately operating GIS device within the same digital picture, provided the latitude and longitude output of the GIS unit can be clearly read in the digital photograph.

EPA is building on their alternative compliance requirement to submit photos of REC equipment for green completions by proposing to require a photograph of each affected well site or compressor station for each monitoring survey performed. Under the well completions portion of the rule, a photograph is offered as an alternative to the records required. However, for the CTG it does not appear to be offered as an alternative but just additional recordkeeping.

The photo must include the date the photograph was taken and the latitude and longitude of the well site imbedded within or stored with the digital file and must identify the affected facility. It is not clear what purpose photos of the affected well site or compressor station would serve. Photos of the well site or compressor are not going to show all of the surveyed components, does not show that a survey was done, and will not provide any indication that a leak was repaired.

A photo of a survey being performed does not provide any additional compliance assurance that the survey requirements were met. Relying on the operator's certification, procedure, and documentation of repairs provides the greatest amount of compliance assurance for an OGI survey. In addition, keeping records of all the photographs will require of the great amount of storage which EPA did not account for in the cost estimate.

In addition, photographs create a security risk such as terrorist activities, retaliation, and anti-competitive activities. Oil and natural gas production and gathering operations are generally unmanned and may not have security measures such as cameras, fences, or gates. The proposed photos of fugitive monitoring activities will inherently capture details that would otherwise not be available. If EPA chooses to require photographs in electronic reporting, these detailed photos will be centralized in the public domain. Individuals with no interest in fugitive monitoring activities will have interest in viewing the photographs. EPA and states will inevitably receive Freedom of Information Act (FOIA) requests for reasons unrelated to fugitive monitoring.

Finally, keeping records of all the photographs will require of the great amount of storage which EPA did not account for in the cost estimate. API members estimate the data storage requirement for these photos is approximately 100 MB per well site survey.

Photographs do not provide any additional environmental benefit and should not be required under Subpart OOOOa for fugitive emissions monitoring. API requests that EPA remove the requirement to take a photograph.

17.6.3 API Strongly Opposes Sending Digital Photographs And Logs To The Permitting Agencies.

EPA solicited comments on whether these [digital photographs and logs] records also should be sent directly to the permitting agency electronically to facilitate review remotely; and how to minimize recordkeeping and reporting burdens API strongly opposes sending digital photographs and logs to the permitting agencies. EPA's cost estimate did not account for the burden of data storage requirements and management of data that would be place on the states. There is no apparent benefit to requiring the state to manage and maintain copies of this information. And, as indicated previously, there is a real security risk putting photographs in the public domain that includes geo data for exact location of sites that are unmanned with little to no security.

17.6.4 EPA Needs To Greatly Reduce The Recordkeeping And Reporting Burden For Leaks

The recordkeeping and reporting requirements of Colorado Regulation 7 are significant, although the requirements are far less than EPA has proposed in this rule. Furthermore, they add burden to the operator without any environmental benefit. The recordkeeping and reporting requirements NSPS OOOO should be greatly reduced. Colorado Regulation 7 only requires that the following records be maintained:

“XVII.F.8.Recordkeeping: The owner or operator of each facility subject to the leak detection and repair requirements in Section XVII.F. must maintain the following records for a period of two (2) years and make them available to the Division upon request.

XVII.F.8.a. Documentation of the initial approved instrument monitoring method inspection for new well production facilities;

XVII.F.8.b. The date and site information for each inspection;

XVII.F.8.c. A list of the leaking components and the monitoring method(s) used to determine the presence of the leak;

XVII.F.8.d. The date of first attempt to repair the leak and, if necessary, any additional attempt to repair the leak;

XVII.F.8.e. The date the leak was repaired;

XVII.F.8.f. The delayed repair list, including the basis for placing leaks on the list;

XVII.F.8.g. The date the leak was remonitored to verify the effectiveness of the repair, and the results of the remonitoring; and
XVII.F.8.h. A list of components that are designated as unsafe, difficult, or inaccessible to monitor, as described in Section XVII.F.5., an explanation stating why the component is so designated, and the plan for monitoring such component(s)."

API requests that minimal records be required to reduce the cost and burden of this rule similar to what Colorado Regulation 7 requires. Further information is not needed to ensure compliance with the leak detection and repair requirements.

Also, API requests that minimal reporting of the leaks be required. Colorado Regulation 7 simply requires that the following information be reported:

"XVII.F.9. Reporting: The owner or operator of each facility subject to the leak detection and repair requirements in Section XVII.F. must submit a single annual report on or before May 31st of each year that includes, at a minimum, the following information regarding leak detection and repair activities at their subject facilities conducted the previous calendar year:
XVII.F.9.a. The number of facilities inspected;
XVII.F.9.b. The total number of inspections;
XVII.F.9.c. The total number of leaks identified, broken out by component type;
XVII.F.9.d. The total number of leaks repaired;
XVII.F.9.e. The number of leaks on the delayed repair list as of December 31st; and"

17.6.5 Proposed Text Revisions Associated With Reporting and Recordkeeping Requirements.

I.5(a) Records for each monitoring survey shall be maintained as specified in paragraphs (a)(1) through (6) and must contain, at a minimum, the information specified in paragraphs (a)(1) through (a)(6). Records are required to be maintained onsite or at the nearest local field office for at least five years.

- (1) Date of the survey.
- (2) Location of the survey
- (3) A list of leaking components
- (4) The date of the first attempt to repair and additional attempts to repair
- (5) The date the leak was repaired
- (6) The delay of repair list including the basis for placing leaks on the list
- (7) The date the leak was remonitored to verify the effectiveness of the repair

~~(2) Beginning and end time of the survey.~~

~~(3) Name of operator(s) performing survey. You must note the training and experience of the operator.~~

~~(4) Ambient temperature, sky conditions, and maximum wind speed at the time of the survey.~~

~~(5) Any deviations from the monitoring plan or a statement that there were no deviations from the monitoring plan.~~

~~(6) Documentation of each source of fugitive emissions (e.g. fugitive emissions component), including the information specified in paragraphs (a)(6)(i) through (iv) of this section.~~

~~(i) Location.~~

~~(ii) One or more digital photographs of each required monitoring survey being performed. The digital photograph must include the date the photograph was taken and the latitude and longitude of the well site or compressor station subject to VOC emission control requirements under section I imbedded within or stored with the digital file. As an alternative to imbedded latitude and longitude within the digital photograph, the digital photograph may consist of a photograph of the monitoring survey being performed with a photograph of a separately operating GIS device within the same digital picture, provided the latitude and longitude output of the GIS unit can be clearly read in the digital photograph.~~

~~(iii) The date of the successful repair of the fugitive emission component.~~

~~(iv) The instrument used to resurvey a repaired fugitive emissions component that could not be repaired during the initial fugitive emissions finding.~~

(b) Annual reports shall be submitted for each collection of fugitive emissions components at a well site and each collection of fugitive emissions components at a central production site or transmission compressor station subject to VOC emission control requirements under section I that include the information specified in paragraph (a) of this section for each monitoring survey conducted during the year. Multiple collection of fugitive emissions components at a well site or collection of fugitive emissions as a central production site or transmission compressor station subject to VOC emission control requirements under section I may be included in a single annual report.

Attachment A

Technical Review of Western Climate Initiative Proposals to
Meter Fuel and Control Gas

Technical Review of Western Climate Initiative Proposals to Meter Fuel and Control Gas

**Prepared by: David A. Simpson, P.E.
MuleShoe Engineering**

Prepared: February 16, 2010

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Technical Review of WCI Proposals to Meter Fuel and Control Gas

I. Executive Summary

The Western Climate Initiative (WCI) makes the assumption that Operators would be reporting the “most accurate” volumes if the gas was metered as a “fuel” stream and a “control” stream instead of applying theoretical factors and Engineering approaches to estimate these volumes. The reports make this assertion without discussing the technology that would be deployed to measure these streams to “provide the rigor required for either cap-and-trade or offset programs”. The review below categorically rejects their basic assumption and asserts that the act of installing meters on the streams considered will provide a **false sense of security** and a **net deterioration in the quality of data reported**.

There is no gas measurement technology currently existing that would provide better data in the field than is currently being reported using manufacturer’s numbers and theoretical calculations. In addition to making the data less representative of reality, the costs that would be imposed are staggering—industry would be required to spend billions of dollars to report gas emissions data that is demonstrably worse than the data they are reporting today.

A. Summary Expenditures

The “Per Company” column below assumes 2,000 wells per company, “Total WCI” column assumes 100,000 wells affected in the WCI States and Provinces (breakdown is included under “Cost of Implementation” below). Many wells cannot sustain either the increased operating cost or the capital expenditure so they would be plugged instead of spending this money—there is no way to predict this mix of expenditure vs. plugging.

	Per well (\$k)	Per Company (\$million)	Total WCI (\$million)
RTU Replacement	\$3.5	\$7	\$350
Host/Database		\$15	\$750
Site Modifications	\$30.0	\$60	\$3,000
Total Capital	\$33.5	\$82	\$4,100
Annual Operating Costs	\$1.5	\$3	\$150

B. Author Biography

David Simpson has 30 years experience in Oil & Gas and is currently the Proprietor and Principal Engineer of MuleShoe Engineering. Based in the San Juan Basin of Northern New Mexico, MuleShoe Engineering addresses issues in Coalbed Methane, Low Pressure Operations, Gas Compression, Gas

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Measurement, Field Construction, Gas Well Deliquification, and Produced Water Management.

A Professional Engineer with his Master's degree, David has had numerous articles published in professional journals, has contributed a chapter on CBM to the 2nd edition of Gas Well Deliquification, by Dr. James Lea, et al, and has spoken at various conferences, including the 2003 SPE *Annual Technical Conference and Exposition* in Denver. He has been a featured speaker at the bi-annual *Four Corners Oil & Gas* Conference for the last 6 years and is a regular instructor at short courses at the annual ALRDC *Gas Well Deliquification Workshop* in Denver. David was Program Chair for the highly successful SPE Advanced Technology Workshop titled "Managing the Performance of Low Pressure Gas Wells and Associated Facilities" held in Ft Worth, TX in October, 2008. His consulting practice includes clients in 10 countries.

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II. Discussion

The Western Climate Initiative has developed at least two documents that each reach the conclusion that gas consumed on wellsites must be measured to achieve adequate “accuracy” in accounting for emissions. The documents further require that gas used for pneumatic controls must be measured separately from gas burned because vented gas has a different “emissions factor” on the environment than burned gas has.

The industry has long said and demonstrated that measuring either fuel gas or control gas represents a very large cost for a very small return. The discussion below supports that position.

A. Magnitude of Gas Consumed

1. *Engine Fuel*

The industry has an excellent understanding of engine fuel. Where engine fuel is measured, the theoretical correlations match very well with measured data. The added value of measuring this fuel-gas stream is not clear to most wellhead compressor operators; consequently it is rare to see a fuel meter on a wellhead compressor or pump jack. The various stakeholders in the gas production process (including regulatory agencies and mineral owners) have accepted that these volumes are both small and adequately represented by the theoretical usage factors.

Engines utilized in field locations range from a single-cylinder Arrow running a pump jack (smallest is the Arrow C-46 which is rated at 6 hp at 500 rpm at sea level with 70,000 BTU/hp-hr fuel consumption) to a nominal 1,000 hp compressor (such as the Waukesha P48 GLD which is rated at 1,200 hp at 1,400 rpm at sea level with 7,720 BTU/hp-hr fuel consumption). This equates to a required measurement range of 5 MCF/day to 220 MCF/day (3.5 to 153 SCFM) assuming a pump jack at ½ load and a GLD at full load.

2. *Separator/Tank Heaters*

I recently did a review of 536 tank and separator burners in the San Juan Basin. Burner nameplate capacity ranged from 50,000 BTU/hr to 500,000 BTU/hr. The average capacity was 340,000 BTU/hr. Since these burners only operate 5-6 months out of the year, this number equates to less than 170,000 BTU/hour on an annual basis. For some perspective, the on-demand hot water heater in my house is rated at 185,000 BTU/hour. This is a fair comparison since both devices are classed as “on demand” in that they will each turn off when conditions warrant—while in service, tank heaters only run a fraction of the time to maintain the tank at the set temperature.

The current method of reporting fuel consumed in burners is to determine if the heater had gas to it during the month, if it did then most operators

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take the nameplate energy consumption times 24 hours per day for every day of the month. For a 340,000 BTU/hour burner this equates to 253 MMBTU in a 31 day month. I have worked with several operators who would report this number even if the burner only had gas to it for a single day.

In reality, the water or condensate entering a tank is usually substantially warmer than the burner set point so the burner will tend to run less than 15 minutes out of an hour on the coldest night. This means that if you shut your heater down at noon on April 1 you would have burned 1 MMBTU for the month and reported 253 MMBTU. Even if the burner has gas to it for an entire month, you burn the gas in the pilot for 744 hours in a 31 day month (typical pilot lights burn approximately 1,700 BTU/hr), but you only run the main burner for something like 186 hours—for a 340,000 BTU/hr burner you consume less than 70 MMBTU and report 253 MMBTU.

The main challenge of measuring the gas consumed in a burner is that the device must measure the pilot flow with the same level of uncertainty as you apply to the main burner flow. For a common 500,000 BTU/hr burner this means that you have to have a 294:1 “turndown ratio”. Turndown ratio is a measure of ability of a measurement device to provide similar “accuracy” over the expected operating range. According to Wikipedia, a Square Edged Orifice meter has a turndown ratio of 3:1. Even a Diaphragm Meter (similar to residential gas meters) only has a turndown ratio on the order of 80:1. A meter that can measure full burner flow would register zero with pilot flow.

With burner on/off control, there is a rapid transient in the flow as the line fills upstream of the burner followed by steady flow. A device that could successfully capture both the transient and the steady flow would have to be able to go from “off” to the top end of its range in less than 1 second, and then hold steady for up to 15 minutes, then go to zero in a fraction of a second. There is so much uncertainty in this transient flow that any available gas measurement technology would yield a worse result than manufacturer’s estimates and Engineering calculations.

Required measurement range 0.04 to 12 MSCF/day (0.02 to 8.3 SCFM).

3. *Dehydrator Reboilers, Heater/Treaters, and Line Heaters*

These devices are similar in specific energy-use to the tank/separator heaters, but they tend to run continuously.

Dehydrators are used to remove water-vapor from a gas stream. This water vapor is adsorbed to a liquid that must then be regenerated. Regeneration takes place in a reboiler that is used to add enough heat to the liquid to cook the water out (about 8,000 BTU/lbm of water on average). Since “rich” liquid (i.e., liquid containing high levels of water) is continuously entering the reboiler, the heater is always on.

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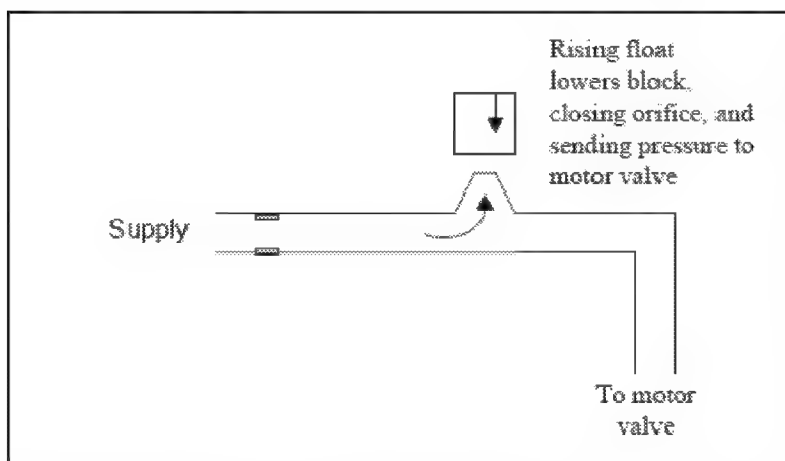
Both Heater/Treaters and Line heaters are designed to add heat to a process stream to control a process variable. For example, Line Heaters are often used in waxy crude to prevent precipitation of paraffin in the pipe causing a clogged line. A Heater/Treater is used to flash light hydrocarbons for further processing into Natural Gas and Natural Gas Liquids streams. Both of these classes of equipment have burners on the high end of the expected range for tank/separator heaters, and both operate around the clock, year-round.

Many technologies could be used to meter any of these streams with adequate repeatability and uncertainty. Whether you meter this stream or use engineering calculations, you will get very similar volumes burned.

4. *Pneumatic devices*

I did a study in the year 2000 (see SPE 61030) that quantified the gas used in high-bleed pneumatic devices. The project described in that paper was an economic success because we were able to replace high-bleed CEMCO throttling level-controllers with no-bleed, snap acting level controllers. The replacement controllers were markedly less effective, but they were marginally good enough and we were able to sell the gas that would have been vented in the CEMCO.

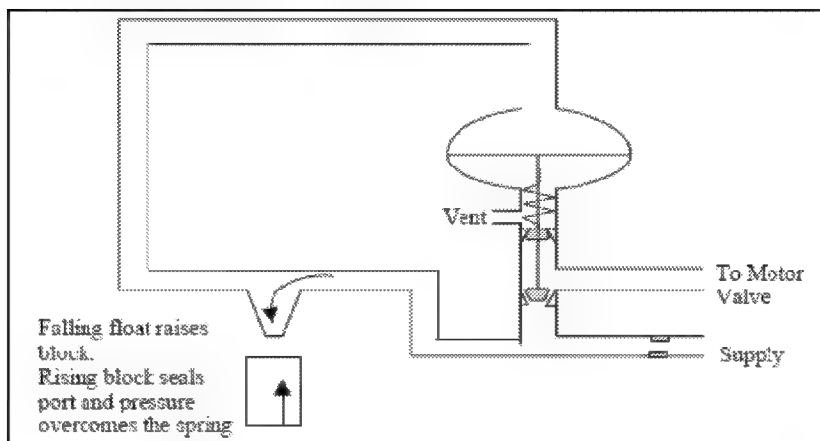
When talking about controllers (level, temperature, etc.), there are two parameters that have to be clarified: (1) Signal Type and (2) Bleed characteristics. Signal type is either “Throttling” or “Snap Acting”. Bleed characteristic is either “continuous bleed” or “no bleed”. An example of a Continuous Bleed, Throttling controller is shown below



In this device, supply gas is provided through a restrictive orifice to the vent. As the block (attached to a level float for example) descends, it begins restricting the flow through the vent and sends pressure to the controlled device (a motor valve in this case). The beauty of this device is that it operates the controlled device very gently and tends to produce very stable performance. The downside is that you are venting gas anytime that the controlled device is other than fully open. Since many controlled

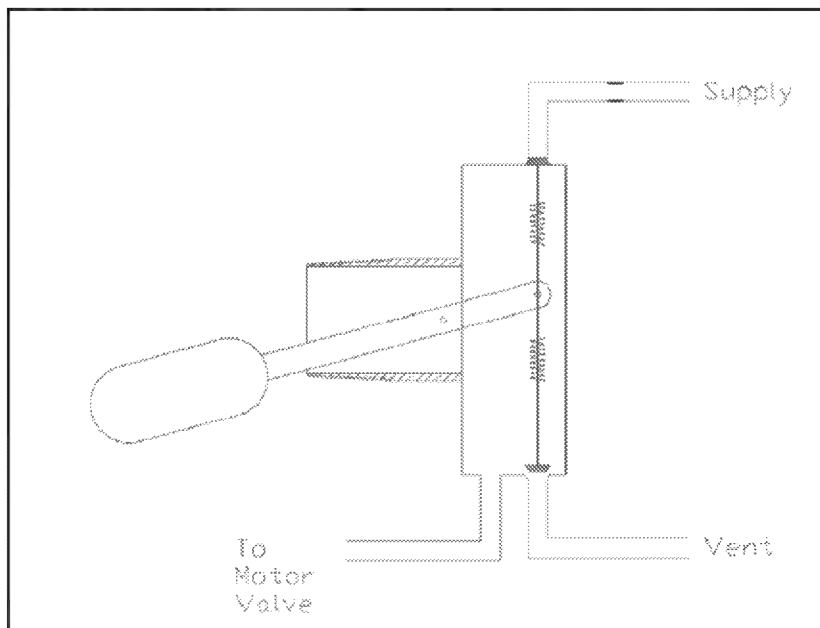
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devices are shut most of the time (e.g. in the referenced study, we determined from a sample of over 4,000 wells that the average well cycled the separator dump valve 5 times per hour for 3 minutes each cycle) some operators have tried to reduce the amount of vented gas by turning the process over like:



In this case, the block closes the vent most of the time. When the fluid level increases, the vent opens some. When the vent is opened far enough to drop the pressure on top of the pilot below the spring setting, the pilot snaps open and sends gas to the motor valve very rapidly. At the end of the cycle, the pilot goes shut and vents the motor valve through the top valve seat. Instead of venting for 45 minutes each hour, it vents about 15 minutes per hour at the cost of throttling the flow.

A "No Bleed" controller would look something like:



This simplified example shows that when the float is down, the supply valve is shut tight and the vent valve is open. As the float starts rising, the

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vent is closed. As it continues to rise it reaches a point where the spring tension is inadequate to hold the supply valve shut and it “snaps” open. At the end of the cycle the falling float reaches the point where it can close the supply. As it continues to fall it eventually reaches the point where the vent opens and the motor valve shuts. Most snap acting controllers are applied in service this simple and it is rare to require a pilot in this on/off service.

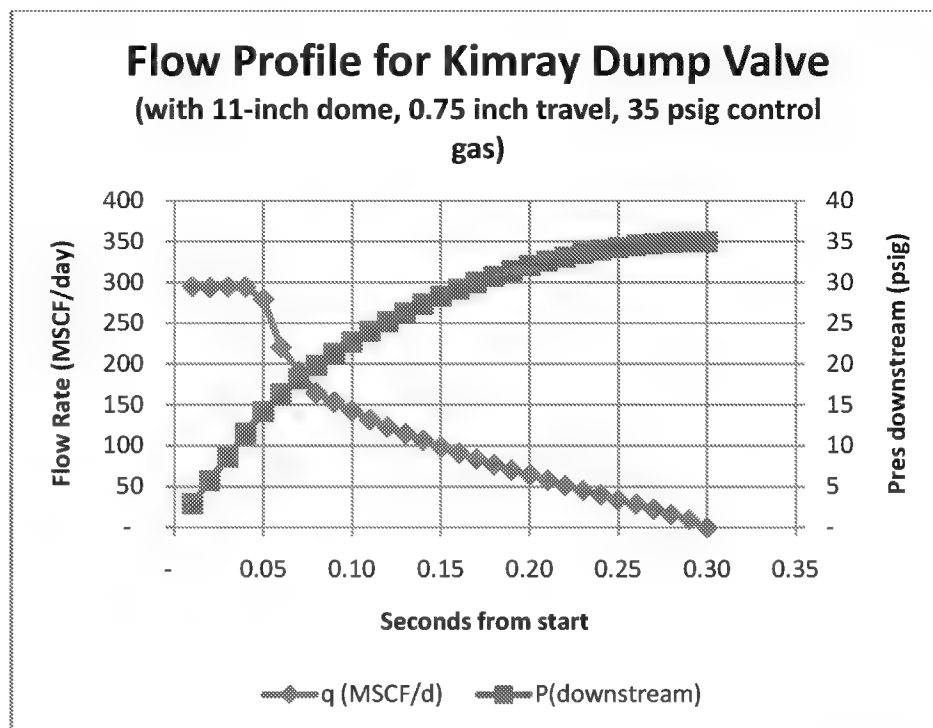
Notice in the description of the action of the no-bleed controller, the supply gas is used to operate the valve against a dead-end. At the end of the process the supply is shut off before the vent opens. The only gas that is vented in a no-bleed controller is the volume of the piping and the motor-valve bonnet. The supply system is never directly exposed to an open vent, so there is no ongoing “bleeding” of gas.

It is possible to throttle a controlled device with a no-bleed controller with an external pilot, but the control tends to be poor and can’t be controlled very long (i.e., the devices used to sense an intermediate position are cumbersome and tend to have a “jerky” action). For practical purposes, when you decide to go to no-bleed you are locking the device into snap acting.

Continuous-bleed controllers are reasonably easy to meter the gas (a CEMCO continuous bleed, throttling level controller vents about 800 SCF/day at 35 psig supply pressure assuming that it is not venting or is venting at a reduced rate for 15 minutes per hour).

For a no-bleed controller, each time the dump valve cycles, control pressure is applied to a diaphragm to counteract spring tension and open the dump valve. At the end of the cycle, the line from the controller to the diaphragm and the diaphragm dome are vented to atmosphere. If we assume that the two devices are connected by 12 ft of 3/8 tubing (0.0092 ft^3) and the diaphragm dome is 0.04 ft^3 (assuming 11-inch diameter, and 0.75 inches of travel) then the volume vented each dump is 0.049 ft^3 . At 35 psig and 60°F then this volume is 0.157 SCF/dump. At 5 dumps per hour this equates to 19 SCF/day (2% of a high-bleed device). The flow and pressure profile will look like:

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Notice that the entire cycle takes something on the order of 0.3 seconds. This flow is made up of a period of sonic velocity (Reynolds Number 996,000) followed by a period of a significant fraction of sonic velocity (Reynolds Number ends up at 648,000 for 0.65 Mach), and finally a period of flow in a normal turbulent flow regime ending with a Reynolds Number of 10,000 just before the level control is closed. A measurement device would have to be able to go from offline to 294 MSCF/d within 5 ms, and be able to do a 100:1 turndown ratio. No meter ever made has that kind of latency or turndown ratio. Some meter technologies would give you numbers (most would never register), but none will give you measurement.

B. Gas Measurement Technologies

When I talked about “meter accuracy” above I always said “accuracy”. “Accuracy” is an amazingly imprecise term that is never used by competent gas measurement professionals. The layman/advertising concept of “accuracy” is encompassed in the terms “repeatability” and “uncertainty” which have precise definitions that can be measured and used to compare the performance of a device relative to a standard or to another device.

“Repeatability” is a measure of a device’s ability to report the same output for a given set of inputs. Many things can impact a device’s repeatability. For example, turbine meters have the worst repeatability of all industrial gas measurement devices because gear lash is a random parameter that can change the speed of the turbine rotor by several percentage points independent of the magnitude of the change in measured input parameters. Acceptable

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repeatability occurs when the standard deviation of the sample data is within $\pm 0.05\%$ of the mean value.

“Uncertainty” is the “dead band” of the instruments. Each component of a gas-measurement station has a defined uncertainty, usually expressed in a range around the device’s calibrated span. For example, a digital pressure transducer may have a stated uncertainty of $\pm 0.5\%$ which means that if the device has a calibrated span of 0-10,000 psig and reads 450 psig then the reading represents a value between 400 and 500 psig. Recalibrating the same device to 0-500 psig would change the meaning of 450 psig to 447.5-452.5 psig. Uncertainty is just that—you do not know where the actual number resides within the uncertainty range. A gas-measurement device is generally considered acceptable if the cumulative effect of each end-devices’ uncertainty is less than $\pm 2.0\%$ (this is based on government requirements which were set before digital instruments, about 1% of the total uncertainty is uncertainty in manual chart integration, 0.5% is from using average temperatures). Electronic Flow Measurement (EFM) devices and digital temperature/pressure instruments make normal uncertainty less than 0.5% in most square-edged orifice (AGA 3) stations today.

Another important gas-measurement concept is “latency”. Latency is a measure of the time lag between a change in flow and that change being reliably represented in the measurement device output. Every technology has some amount of latency. For example, a stopped turbine meter requires flow to overcome static friction before it starts spinning, and once it starts spinning it will tend to spool up to a high angular velocity before coming back down to report the actual flow rate. Consequently, turbine meters perform best in very steady flows—putting a turbine on the gas line to a separator dump valve would result in the meter not registering most dump events and over ranging on the few that it does register.

All gas measurement technologies are “inferential” technologies. This means that the equations infer a flow rate from some unrelated, but measurable, parameter. For example, Square Edged Orifice Measurement uses the *Bernoulli Equation* published by Daniel Bernoulli in 1738 to relate the pressure drop across a known flow restriction to a velocity, and then uses specific correlations developed for gas measurement to convert the velocity into a volume flow rate at standard conditions. The first assumption in Mr. Bernoulli’s development of his famous equation is that the fluid is both incompressible and inviscid. Neither of these assumptions is literally true in a gas flow, but the industry has proven that both assumptions are close enough to being true to allow meaningful flow rates to be estimated. At commercial velocities, highly compressible natural gas does indeed act like an incompressible fluid unaffected by fluid friction over short distances. As velocity increases toward the speed of sound or decreases to result in a Reynolds Number under 4,000 the incompressible assumption becomes progressively less valid and the uncertainty in a measurement device increases dramatically.

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1. *Gas Analysis*

Many states and the federal government have agreed that small wells (typically wells making less than 100 MCF/day) would be exempt from requirements for semi-annual analysis of the gas. This decision has not caused wholesale inaccuracies and I get the impression that all the stakeholders are satisfied with annual or even less frequent gas analysis.

For the Western Climate Initiative to re-introduce semi-annual analysis requirements and to propose quarterly analysis on small streams is not a reasonable imposition.

2. *Square Edged Orifice Meters*

The operating principle is to infer a flow rate from the differential pressure across a known restriction based on measured pressure and temperature. For a clean, well conditioned flow stream the uncertainty of the reported volume is on the order of 0.5-2%. Both uncertainty and repeatability are adversely affected by 2 phase flow, dirt, and changes in flow profile and in small-volume and/or intermittent service the uncertainty can exceed $\pm 25\%$.

These meters are the most common type of gas measurement in upstream gas operations. One of the reasons for their popularity is the extensive body of research that has gone into defining the meter configuration and operating limits. This research is documented in the series of reports collected into API 14.3 (also published as AGA 3).

The standards indicate that Square Edged Orifice measurement is only appropriate in meter tubes equal to or greater than 2.000 inches internal diameter (ID) and for Reynolds Numbers above 4,000. This means that the smallest volume that can be reliably measured with this technology at 35 psig is 5 SCFM (7.2 MSCF/day).

Latency in this technology is caused by the chaos in the flow as it moves to establish a pseudo-steady-state condition. I have evaluated carefully-controlled flows at the Colorado Engineering Experiment Station (CEESI) during start-up using instruments that record pressures 100 times per second and have found that reaching repeatable flow in a Square Edged Orifice Meter can take as much as 5 minutes from a dead stop.

3. *V-Cone Meters*

The operating principle is to infer a flow rate from the differential pressure across a known restriction based on measured pressure and temperature. These meters are self-conditioning and tolerant of solids. The total uncertainty is on the order of 0.5-1%. Turndown is 10:1, and it is advertised to work down to Reynolds Numbers of 6,000 or greater.

This device has potential, but the smallest meter (1/2" ID) would register zero during pilot flow and would have a dP less than 7 inH₂O (0.25 psi)

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while supplying gas to a 500,000 BTU/hr burner which would increase the uncertainty to several percent.

Latency of these meters is similar to Square Edged Orifice Meters.

4. *Turbine Meters*

The operating principle is to relate a rotor's angular velocity to a volume flow rate. Turbine meters assume reasonably steady flow with respect to time. Changes in rate take considerable time to steady out. Latency for a change to a flowing stream can be up to a minute, for a start/stop flow it can be many minutes.

Turbine meters rely on considerable mass to spin the rotors and they rarely provide adequate results in gas flows below 50 psig.

5. *Coriolis Meters*

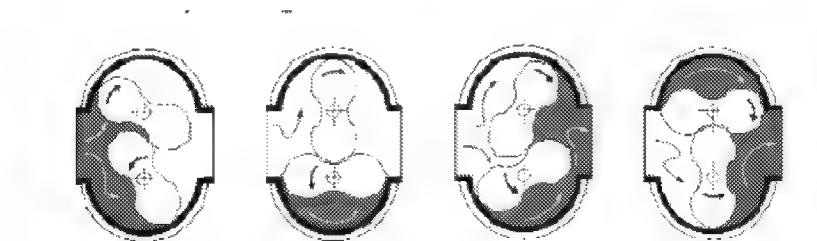
The operating principle is that the momentum of a flowing fluid will vibrate a piping loop, and that the frequency of the vibration is a function of the mass flow rate and density of the fluid. Low velocities and low pressures have a serious negative impact on uncertainty and repeatability. The MicroMotion division of Emerson has some fairly new instruments that can handle quite low flows, but the latency is similar to a turbine meter.

6. *Ultrasonic Meters*

The operating principle of Ultrasonic Meters is that there will be a Doppler Shift in the speed of sound as fluid moves away from a fixed sound-pickup point. The magnitude of this shift is a function of fluid density and fluid velocity. Low velocities and low pressures have a serious negative impact on uncertainty and repeatability.

7. *Roots Rotary Meters*

The operating principle of these positive displacement meters is to trap a fixed volume of gas within each revolution of a pair of lobes. Counting revolutions yields a volume.



This device is quite close to “measuring” gas volumes instead of “inferring” a volume from a tenuous mathematical relationship, but it is still counting revolutions instead of gas molecules.

Latency in Rotary Meters is very high due to having to start the rotors spinning again and leakage past the rotors before they start spinning.

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8. *Diaphragm Meters*

The operating principle of these positive displacement meters is to fill a resilient chamber to line pressure, then that chamber is shifted to the demand side while a second chamber is filled. Each time the meter shifts chambers it records a pulse that represents a known volume.

The uncertainty, repeatability, and latency of these devices is excellent. Turndown ratio is on the order of 80:1. “Household quality” meters would handle the low flows, but materials of construction are generally inappropriate for field gas (e.g., they have considerable brass that is rapidly deteriorated by any H₂S in the flow; all of the Household meters have aluminum casings which have not stood up well to condensate service). “Industrial quality” meters are considerably more expensive and many of them still have inappropriate materials. A meter with no aluminum or “yellow metal” is difficult to find and is very expensive.

9. *Exotic/Laboratory instruments*

The volume of gas discussed in this application kept leading me to devices like “Thermal Dispersion Meters” (this meter has two probes, one is heated and one is a temperature sensor, the dT can be correlated to a mass flow rate, very long latency); and laboratory quality devices that are absolutely intolerant of free liquids and/or solids. None of these devices has a published standard for construction, installation, and operation and none has a reasonable chance of success.

10. *Conclusion*

In conclusion, the act of installing meters on the streams considered will provide a false sense of security and a net deterioration in the quality of data reported. Specifically:

- a) Engine fuel can be measured by dP inferential devices (either Square-Edged Orifice Meters or V-Cone meters), but the resulting metered volume will be very close to the theoretical data that is being collected today. Where the two numbers are significantly different I would expect that there is a measurement device error (such as an incorrect meter parameter or a backwards orifice plate) before I would expect the theoretical calculation is incorrect.
- b) No meter exists that can reliably measure both pilot flow and burner flow on a tank or separator heater if the burner is the only load on the system. If measuring these volumes becomes mandatory, then a diaphragm meter could be used to measure the pilot flow and either a Roots Meter or another diaphragm meter could be used for the burner flow. A fuel gas system with multiple engines and multiple burners could be metered with a V-Cone or Square-Edged orifice meter, but the burner volumes would only be able to be measured while the engine was consuming fuel—when the engine is not running, the burner is unlikely to register as an increment from zero.

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The theoretical values for burners could be improved by putting a “valve open” clock on the supply line, which (in conjunction with manufacturer’s data and Engineering analysis) would result in a better volume than attempting to meter the gas.

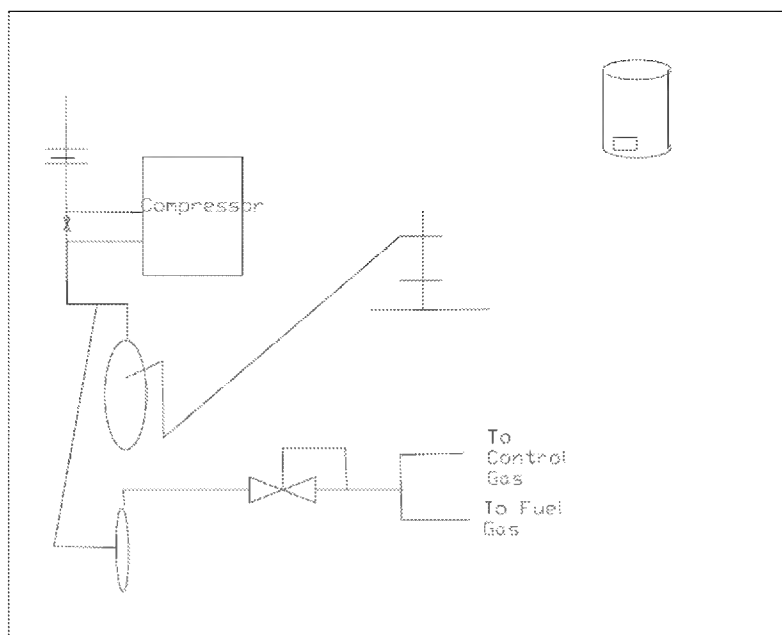
- c) Heater/Treaters, Dehy Reboilers, and Line heaters are reasonably constant loads that could be metered by several of the technologies above (the diaphragm meter would be preferred, but the small V-cone and the smallest Coriolis meter would work), but again the data would be of a similar magnitude of the data being reported today.
- d) No meter exists that can reliably measure the flow to a single dump valve or even a dozen dump valves off the same no-bleed controller. Even if a group of dump valves (three or more) were controlled off the same controller, the flow and pressure traverse would be similar to the one above and the meter would have to go from zero to 900 MCF/d in a few milliseconds then back to zero within about 1/3 second. It can’t be done.

The diaphragm meter comes the closest, but it will tend to either be over ranged for most of the flow period or will fail to register a significant portion of the tail. I would guess that the total uncertainty would be on the order of 20-30%.

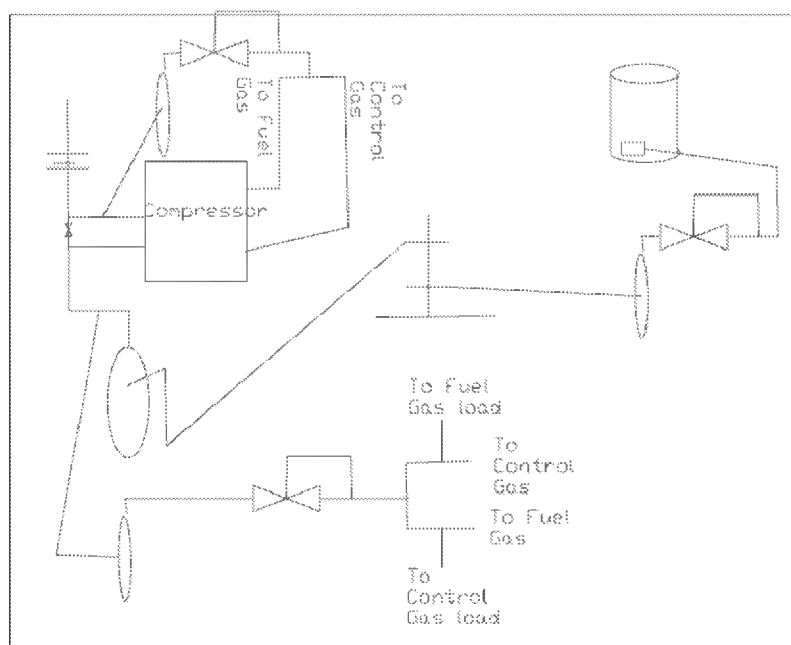
On the other hand, the flow to a continuous-bleed controller could be measured successfully with either a Roots meter or a diaphragm meter.

C. Wellsite Configurations

The reports from the Western Climate Initiative start with an assumption that there is something that can be reasonably termed a “standard” wellsite where fuel-gas measurement equipment can be “relatively easily” installed. This is patently false. The implication is that every site looks something like:



This layout brings gas from the wellbore tubing to a single separator, and then takes fuel gas off the separator outlet to supply both control requirements and fuel requirements. While there are wells that are configured like this, they are rare. A layout that would be equally as likely to occur would look like:



This layout did not suffer the expense of running a fuel gas line across the location to supply gas to the tank heater from the separator; it pulled that fuel stream from the casing valve and put a second fuel pot as a less expensive alternative to laying a line. Also, the compressor takes its fuel and control gas from an on-skid fuel-gas system. This is the normal configuration since

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compressor-discharge gas is far better suited to both fuel gas and control gas applications than suction gas is.

This distributed fuel-gas supply scenario has evolved over the decades because the regulations in place at the time of site facilities-construction did not presume to tell operators how to build their sites.

III. Costs of Implementation

It is difficult to develop costs for a “typical” wellsite, “typical” automation system, or “typical” host/database modification because there is no such thing. There are companies within the WCI area of operation that don’t have any automation or measurement on their wellsites today and use Excel spreadsheets to allocate sales volumes back to wells. There are companies with home-grown automation systems that have zero flexibility and cannot be retrofit for two additional volume calculations and would have to be discarded and replaced. There are companies with purchased systems that they do not have the license to modify. There are wellsites that will be trivial to retrofit. There are wellsites that will require laying new lines and replacing production equipment.

My approach to cost estimates is to try to address the wellsites, field automation equipment, and host/database systems that I’ve worked with at my clients operations over the years. I am certain that this technique will be representative of a large number of wellsites and a number of operators, but it will not be all encompassing because it is impossible to assess all of the permutations.

Accessing EIA data at

http://www.eia.doe.gov/pub/oil_gas/petrosystem/petrosysog.html and CAPP data at <http://www.capp.ca/GetDoc.aspx?DocID=146286> for 2006 (the last year that has both US and Canadian well counts) I get the following counts of wells (after deducting 31,000 wells from California to account for Kern County):

	Gas	Oil	Total
New Mexico	36,202	15,456	51,658
California	3,692	16,197	19,889
Utah	5,259	2,574	7,833
Montana	6,207	4,199	10,406
BC	6,608	1,122	7,730
Manitoba	0	2,692	2,692
			100,208

For the economic analysis I’ll use 100,000 wells.

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A. RTU costs

Looking at the specifications on a number of RTU's, there are high-end RTU's like the Fisher FloBoss 107/107E that can accept multiple gas-measurement inputs. These devices are not the norm for wellsite use. More common are units like the Kimray DACC 500 RTU that can only accept one flow calculation. At least 75% of the RTU's currently installed will need to be upgraded at a per-unit cost of \$4,000-5,000. Assuming that 25% of the locations do not need RTU replacement then the average for the wells is approximately \$3,500/site.

B. Host/Database costs

Host databases are very difficult to modify. Changing the Host requires that you: (1) have a place to put the new data; (2) change the data polling logic to pull the new data off the RTU to populate the new database fields; (3) add the new data to EFM editing programs; and (4) modify reporting systems to show the new data. I spent 12 years managing projects similar to this for Amoco and was involved when Amoco was making some significant changes to their host database. Amoco's changes were far less extensive than adding two measurement points that have to be reported to regulatory agencies and those changes cost \$15 million and took almost 2 years. If the average impacted user has 2,000 wells then for 100,000 wells in WCI you could expect to spend \$750 million.

C. Installation costs

After interviewing several operators and several roust-about service providers, modifying control and fuel gas systems to allow measurement and installing measurement equipment should be budgeted at 10 days of work per site. At \$1,200/day that is \$12,000/well labor. Jobs like this one are typically 60% materials (including the cost of a meter run of undecided technology) and 40% labor so total budgetary cost should be \$30,000/well—100,000 wells would cost \$3 billion.

This does not address the gas volume vented during the site blowdown and purge or the vented gas during semi-annual meter calibrations. To put that volume in perspective, for a small location without a compressor operating at 150 psig, the volume vented and later purged would be on the order of 2.5 MSCF—the same volume that would be vented in 131 days of operating a single no-bleed dump valve at 35 psig and 5 cycles/hour. The amount vented and purged during meter calibrations will depend on meter technology selected, but it is far from zero for any technology.

These costs also do not address the 2 weeks of lost production (call it 12 days at an average production rate of 100 MSCF/d) of something like 1,200 MSCF that was either deferred or more likely in competitive reservoirs was allowed to migrate to offset wells. At a \$5/MMBTU sales price the cost of this lost production is \$600 million across 100,000 wells.

February 16, 2010

D. Operating costs

Operating costs are the easiest to assess. A measurement tech can handle approximately 200 meter stations. The cost of a measurement tech with vehicle and benefits is \$150,000/year which works out to about \$750/meter/year or \$1,500/site/year.

IV. Conclusion

The idea that there would be any benefit to society from requiring gas measurement of control gas and fuel gas is patently false regardless of your position on the risk to society of gases being released to the atmosphere. A project to put this measurement in place would result in considerable vented gas, excessive capital expenditures, and excessive increases in operating costs. On the other hand the data from this expensive equipment would actually be less representative of the gases released than the current methods. In short, you would be implementing a very large cost to develop less precise data.

February 16, 2010

ED_002110_00045092-00144

Message

From: Johnson, Kirk D. [kirk.johnson@nreca.coop]
Sent: 5/3/2017 3:13:00 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: NRECA follow-up

Hi Mandy –

Thanks so much for joining so many electric co-ops with Administrator Pruitt last week while we had our annual legislative Conference! I wanted to follow-up with you to make sure we had the right list of “to do” items as a result.

Per the Administrator’s request:

We will be getting you our stranded assets (or “lost capital” as Administrator Pruitt called it) information resulting from the CPP.

We will also follow-up with specific Regional Haze issues our members are still having.

And we are developing specific suggestions for NSR reform.

Please do not hesitate to reach out at any time we can provide information or assist you and the Administrator as you organize the Agency to tackle several of these key issues.

Thanks so much!

-K

Kirk Johnson

Senior Vice President, Government Relations

703-907-5775 (office) | 703-887-0706 (mobile) | kirk.johnson@nreca.coop

Assistant: Erin Steverson | 703-907-5854 | erin.steverson@nreca.coop



NRECA Mission: To Promote, Support, and Protect the Community and Business Interests of Electric Cooperatives.

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Message

From: Marc Himmelstein [Marc_Himmelstein@nes-dc.com]
Sent: 5/11/2017 5:36:57 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Introduction

> I have a recollection of us meeting at some point when you were on the committee
> Our firm NES, does mostly executive branch representation
> We represent a bunch of oil and gas, refining, utilities etc
> Wonder if you have time early next week for a quick discussion
> I am around Monday through Wednesday before I hit the road for a few days
> I'm certain Ryan, Catanzaro or
>
>
> Sent from my iPad

Message

From: D'Angelo, Wayne J. [WDAngelo@KelleyDrye.com]
Sent: 5/8/2017 2:50:30 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: RE: Steel Manufacturers Association
Flag: Follow up

Thanks Mandy. We slated an hour for the lunch presentation but are amenable to whatever duration you are comfortable with. Within that time slot, we would expect to give you a little bit of an intro to our industry and how we are regulated, etc. We would also introduce the members in the room so your time slot would end up being somewhat less than an hour.

We would also like some Q&A but can change that if that complicates your approvals. Rest assured, however, this is not a crowd that will ask badgering or antagonistic questions.

I apologize but am flying at the times you proposed on 5/18 and 5/19. Rather than trying to meet, would it be easier for you if I just set up a 1/2 hour conference call? If so, here my flight times are below. The only other conflict I have (and can't move) is a speaking engagement from 10:30 to 1:00 EST on 5/18. I will make any other time work. Sorry to be difficult! And thank you!

Wed May 17 359 Depart **WASHINGTON (REAGAN NATIONAL), DC (DCA)** on Southwest Airlines at **06:55 AM**
Arrive in **HOUSTON (HOBBY), TX (HOU)** at **09:15 AM**
Travel Time 3 hrs 20 mins
[Wanna Get Away](#)

.....

Date	Flight	Departure/Arrival
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Thu May 18	969	Depart HOUSTON (HOBBY), TX (HOU) on Southwest Airlines at 07:55 AM Arrive in LOS ANGELES, CA (LAX) at 09:35 AM Travel Time 3 hrs 40 mins <u>Wanna Get Away</u>
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Wayne D'Angelo

Kelley Drye & Warren LLP
(202) 342-8525 | wdangelo@kelleydrye.com

From: Gunasekara, Mandy [<mailto:Gunasekara.Mandy@epa.gov>]
Sent: Monday, May 08, 2017 9:13 AM

To: D'Angelo, Wayne J. <WDAngelo@KelleyDrye.com>; Skelton, Crystal <CSkelton@KelleyDrye.com>

Subject: RE: Steel Manufacturers Association

Thank you, Crystal. Great catching up with you and Shane – I can't wait until your DC visits to become more regular!!

Wayne,

Noon on the 25th works great. How long do I need to speak and do you want Q&A?

Also, for a pre-meeting, I'm very flexible next Thursday (5/18) and Friday 5/19) mornings around 10 or 10:30. Either of those times work for you?

Best,
Mandy

From: D'Angelo, Wayne J. [<mailto:WDAngelo@KelleyDrye.com>]

Sent: Monday, May 8, 2017 8:03 AM

To: Skelton, Crystal <CSkelton@KelleyDrye.com>; Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>

Subject: RE: Steel Manufacturers Association

Thank you Crystal! And thank you Mandy! If you can swing an appearance on May 24th or even the morning of May 25th, I can assure you a sizable, friendly, and very interested audience representing almost 80% of domestic steel capacity. You can speak on whatever issue you would like and there is no risk of being too specific or too generic. This group is made up of environmental managers and they are keen on getting any information on EPA's regulatory outlook and approach to compliance. Just seeing someone from the new administration and hearing that there is an openness to listening to industry and take a fresh look at some issues will really resonate with the group.

I'm happy to answer any questions and help facilitate in any way. Thank you both again,
Wayne

Wayne D'Angelo

Kelley Drye & Warren LLP

(202) 342-8525 | wdangelo@kelleydrye.com

From: Skelton, Crystal [<mailto:cskelton@kelleydrye.com>]

Sent: Friday, May 05, 2017 11:23 AM

To: gunasekara.mandy@epa.gov

Cc: D'Angelo, Wayne J. <WDAngelo@KelleyDrye.com>

Subject: Steel Manufacturers Association

Hi Mandy,

So great seeing you last night, and can't wait to see you again in June!

As I mentioned last night, the Steel Manufacturers Association would like to invite you to speak at their annual members meeting on May 24th during the keynote slot at lunch (noonish), or if that doesn't work, anytime during the 24th or until their meeting concludes mid-day on the 25th. The members are interested in hearing

about what they can expect under this Administration's EPA and how they can best assist you and Administrator Pruitt.

The group also would like to have a brief meeting with you and a select few of the members ahead of the May 24th meeting to discuss how SMA can best help EPA, and how it can point the members to topics that would be most helpful for you.

I am copying Wayne D'Angelo, who you met a few weeks ago. He is working with SMA and will be coordinating the meetings on their behalf.

Best,
Crystal

CRYSTAL SKELTON
Senior Associate

Kelley Drye & Warren LLP
Tel: (310) 712-6467
cskelton@kelleydrye.com

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Message

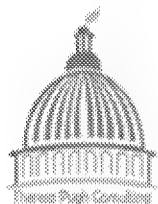
From: Theresa Pugh [theresapughconsulting@gmail.com]
Sent: 5/16/2017 5:49:53 AM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: FMEA Final Comments on Reg Reform : EPA-HQ-OA-2017-0190
Attachments: 2017_05_12_12_33_56.pdf

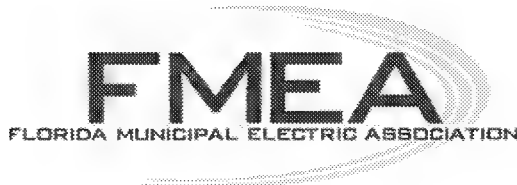
Dear Mandy and George:

I accidentally left you off the distribution of these to senior EPA staff on Friday afternoon. Apologies! It was an oversight. These comments are from the Florida Municipal Electric Association regarding suggestions for regulatory reform. (They were submitted to the docket through www.regulations.gov).

Enjoy our beautiful weather.

Theresa Pugh Consulting, LLC
2313 North Tracy Street
Alexandria, VA 22311
703-507-6843
www.theresapughconsulting.com





May 11, 2017

Mr. Scott Pruitt
 Administrator
 U. S. Environmental Protection Agency (EPA)
 1200 Pennsylvania Ave, NW
 Mail Code 1101 A
 (Submitted by e mail to www.regulations.gov)

Ms. Samantha Dravis
 Senior Counsel and Associate Administrator, Policy and Regulatory Reform Officer (RRO)
 U. S. EPA

Mr. Ryan Jackson
 Chief of Staff to the Administrator and Chair, Task Force on Regulatory Reform
 U. S. EPA

**EVALUATION OF EXISTING REGULATIONS CONSISTENT WITH EXECUTIVE
 ORDER 13777
 EPA-HQ-OA-2017-0190**

Dear Mrrs. Pruitt, and Jackson and Ms. Dravis:

I am writing to submit the comments from the Florida Municipal Electric Association (FMEA) regarding U. S. EPA's regulatory reform efforts and the pursuit of determining priorities for action in 2017.

FMEA represents the unified interests of 34 public power communities (or municipally owned and operated) across Florida. Public power utilities play an important role in Florida's electric industry serving 15% of the state's population or about 3 million Floridians. FMEA utilities are committed to operating in a manner that assures environmental protection of our air, water, and natural resources while still providing reliable and affordable electric power to our customers. FMEA believes that environmental regulations should be crafted to provide for both environmental protection and reliable and affordable electric power.

We look forward to working with you and your staff to address these priorities. FMEA offers these comments in advance of the deadline to assist your team in addressing both policy priorities and to contemplate the actions and requisite staff/contractors needed in the FY2018 budget. Please contact me at 850-224-3314, ext. 7, or azubaly@publicpower.com, for any appointments or questions. The names on the attached white papers also can provide detailed technical assistance in my absence.

417 E. College Ave. (32301) • PO Box 10114 • Tallahassee, Florida 32302 • (850) 224-3314 • Fax: (850) 224-2831 • www.publicpower.com

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 • St. Cloud • Starke • Tallahassee • Vero Beach • Wauchula • Williston • Winter Park •

FMEA Cover Letter to Comments
EPA-HQ-OA-2017-0190
Page Two

Sincerely,

A handwritten signature in cursive script that reads "Amy Zubaly". The signature is written in black ink and is positioned above the printed name and title.

Ms. Amy S. Zubaly
Interim Executive Director

- Comments
- White Papers Addressing Many Points in Comments

**COMMENTS SUBMITTED
FROM FLORIDA MUNICIPAL ELECTRIC ASSOCIATION (FMEA)
TO
U. S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
REGARDING EVALUATION OF EXISTING REGULATIONS CONSISTENT WITH
EXECUTIVE ORDER 13777
MAY 15, 2017
EPA-HQ-OA-2017-0190**

**FMEA COMMENTS ON EVALUATION OF EXISTING REGULATIONS UNDER
EXECUTIVE ORDER 13777**

The Florida Municipal Electric Association (FMEA) represents the unified interests of 34 public power communities (or municipally owned and operated) across Florida. Public power utilities play an important role in Florida's electric industry serving 15% of the state's population or about 3.0 million Floridians. FMEA utilities are committed to operating in a manner that assures environmental protection of our air, water, and natural resources while still providing reliable and affordable electric power to our customers. FMEA believes that environmental regulations should be crafted to provide for both environmental protection and reliable and affordable electric power.

FMEA offers these comments to assist the agency identifying opportunities to reduce regulatory costs while maintaining environmental and public health protection.

1. New Source Review (NSR): EPA's current enforcement policy related to NSR preconstruction permit program under Clean Air Act. **Citations:** Clean Air Act Section 7470 or 42 U.S. C Section 7471(3), 40 CFR Part 51.166(b)(3)(iii) and 40 C.F.R. Part 51.166(b)(47)(iii).

EPA's Office of Enforcement and Compliance Assistance has created significant regulatory uncertainty that deters modernization and energy efficiency improvements. Modernization and energy efficiency measures at factories and power plants are needed to revitalize American business. Similar modernization and energy efficiency measures are common in Germany, Japan, Canada, China, and other major trading countries. This does not require a change in law. Nor does it roll back environmental standards. EPA should also revise its enforcement policies for "routine maintenance, repair and replacement" or RMRR under 40 CFR Part 51.166(b)(47)(iii). (See white paper in appendix).

2. Revise modeling under EPA's Cross-State Air Pollution Rule (CSAPR) without changing final rule. **Citations:** Section 110(a)(2) of the Clean Air Act and Sections 103, 320, 42 U. S.C. Section 7410(a)(2)(K) and 42 U. S. C Section 7475 (a)(3) and 40 C.F.R. Part 51 Appendix W, and 82 Fed. Reg. 5182 (Jan. 17, 2016); amended 82 FR 8499 (Jan. 26, 2017). 40 C.F.R. 40 CFR Parts 52, 78, and 97: "2008 CSAPR Update Rule for the 2008 Ozone Standard - 81 Fed. Reg. 74,504 (Oct. 26, 2016) and Air Quality Modeling TSD for the Final Cross-State Air Pollution Rule Update; to be amended by the 2015 CSAPR Update Rule, See Preliminary Interstate Ozone Transport Modeling Data for the 2015 Ozone Standard, 81 Fed. Reg. 1,733 (Jan. 6, 2017); amended 82 Fed. Reg. 8,499 (Jan. 26, 2017).

EPA's cross state air pollution regulations are designed to prevent NAAQS violations in a state due to air emissions from an upwind state. The methodology used by EPA in developing its interstate rules have been rejected by the courts several times. The emission allocation methodology used by EPA in its cross-state rulemaking has produced rules that over control the emissions in some states at the expense of others. EPA's emission allocation methodology is greatly dependent on computer modeling. FMEA believes that dispersion modeling can be improved and should be made far more transparent. (See white paper in appendix).

3. Repeal 2015 Start Up, Shut Down & Malfunction (SSM) regulation and revise rule back to pre-2015 SSM policy on affirmative defense for emergency conditions. Citation: 40 C.F.R.63.1111 or §63.6(e)(3). This repeal of the 2015 final rule is consistent with the policy views of many state agencies who have undertaken litigation measures against the 2015 rule requiring revisions to all state SIPs for SSM provisions for those nonattainment areas. Deference should be shown to state agencies which have better expertise on how to achieve responsible air pollution reductions with reasonable start up, shut down and malfunction of many thousands of pieces of manufacturing equipment and combustion sources—including combined cycle natural gas units (NGCC) and coal-fired power plants. (See white paper in appendix).

4. Repeal Clean Power Plan (NSPS for new, modified and reconstructed as well as existing power plants—Clean Air Act Section 111(b) and 111(d) respectively). Citations: 80 Fed. Reg. 64,510 (Oct. 23, 2015 and codified at 40 C.F.R. part 60,70, 71, 98 and 80 C.F.R. 64,662 (October 23, 2015 to be codified at 40 C.F.R. part 60). CO₂ regulations should be made within fence line of power plant and be consistent with the NSPS program for conventional pollutants. The consideration of remaining useful life of the plant is key in any requirements for CO₂ reductions, energy efficiency, use of renewables, and other requirements.

5. Repeal and replace Effluent Limitation Guidelines (ELG) for Steam Electric under Clean Water Act regulation should be replaced with a more realistic regulation after providing transparency on data underpinning the rule on water toxicity weighting. Citation: 40 C.F.R. Part 423. Power plants expected to retire within few years should not be required to install expensive ELG controls. All data used by EPA and contractors to determine toxicity weighting and other methods for setting ELG standards should be visible in the proposed rule. EPA should not be allowed to redact data in proposed rules. If data is Confidential Business Information (CBI) and provided to the government under CBI protections, those protections should be followed. EPA redacted data that was not submitted under CBI protections. (See white paper in appendix).

6. Revise Ozone/PM 2.5 National Ambient Air Quality Standards (NAAQS) Citation: 42 U.S.C. §740. NAAQS standards, reviewed every five years, should be based upon human health exposure not theoretical human health exposure based upon overly conservative modeling. All human health exposure scientific studies conducted by EPA or EPA contractors should be visible to the public for public comments when EPA proposes revision to the NAAQS consistent with the Data Quality Act.

7. EPA's Regulatory Impact Analysis (RIA) Needs to Be Reviewed and Revised to Fully Reflect the Requirements of Executive Order 13563 and Executive Order 12866 along with OMB Circular A – 4.

While Executive Order 13563 and Executive Order 12866 along with OMB Circular A – 4 provide the agency with guidance on how to prepare a comprehensive benefit cost analysis in the Regulatory Impact Analysis (RIA) process for a proposed regulation, the agency often fails to follow the intent of this guidance by utilizing techniques that significantly overestimate the benefits of the regulation while greatly underestimating the cost. (See white paper in appendix).

8. Designating Certain Biomass Fueled Electricity Production as Carbon Neutral for Federal Regulatory Purposes. For over 6 years EPA has been attempting to develop Biogenic Assessment *Factor (BAF)* that would clearly establish carbon neutrality for certain biomass fuels. Despite the fact that numerous studies have confirmed most biomass fuel streams are carbon neutral, EPA's Science Advisory Board (SAB) has yet to accept a final accounting framework to establish carbon neutrality for biomass fuels. EPA should expeditiously complete and adopt a BAF for biomass fuels. (See white paper in appendix).

9. EPA Should Immediately Revise Its Coal Combustion Residuals Regulation (CCR). EPA should remove the requirement that facilities must cease placing CCR and Non-CCR waste streams into a CCR unit within six months a specific occurrence. **Citation:** 40 C.F.R. Parts 257 and 261. EPA's CCR regulation has several onerous requirements that would force an entire power plants to shut down its operations within six months after a specific CCR unit (either impoundment or landfill) occurrence (e.g.an elevated groundwater monitoring concentration). The shutdown would be required because the regulation requires that placement of CCRs or non-CCR wastewater streams in the CCR unit must cease within the six months. (See white paper in appendix).

Thank you for reviewing FMEA's comments. FMEA would be pleased to meet with EPA staff to discuss any of these recommendations in more detail. The attached white papers offer more details on several of these topics. FMEA looks forward to submitting more detailed comments to address these concerns and recommendations for corrective action during individual rulemakings or calls for comments.

FMEA contacts:

Amy Zubaly, Azubaly@publicpower.com

Robert Kappelmann, rbrtkappelmann@gmail.com

Hilary Sills hsills@starpower.net

Theresa Pugh, theresapughconsulting@gmail.com

APPENDIX- WHITE PAPERS

1. New Source Review Permitting Regulation's current interpretation (2 pages)
2. Cross-State Air Pollution Rule (CSAPR) to Address Downwind Air Pollution Through Good Neighbor Policy (2 pages)
3. EPA's Startup, Shutdown, and Malfunction (SSM) "SIP Call" Action Raises Safety Concerns and is Based on Insufficient Data. (2 pages)
4. EPA's Regulatory Impact Analysis (RIA) Needs to be Reviewed and Revised to Fully Reflect the Requirements of Executive Order 13563 and Executive Order 12866 Along with OMB Circular A-4. (1 page)
5. Designing Certain Biomass Fueled Electricity Production as Carbon Neutral for Federal Regulatory Purposes. (2 pages)
6. Effluent Guideline Regulation Needs to be Repealed and Replaced (example from Lakeland Electric, Lakeland, FL) (1 page)
7. Revise Coal Combustion Residuals Regulation (CCR) (3 pages)

New Source Review - triggering NSR in Permit Reviews for Existing Sources Discourages Energy Efficiency and Power Plant/Factory Modernization

Why it is Broken: Adopted in 1977, New Source Review (NSR) was designed by Congress to address new, greenfield factories. NSR is often interpreted as a “new” source regulation but this name is now a misnomer. As initially implemented by EPA, an existing source would only be subject to NSR when a change was made to the source that resulted in a significant annual emission increase of a regulated air pollutant. Because of its broad nature, Congress included an exception for emission increases due to routine maintenance repairs, and replacement (RMRR). This exception was extremely important because without it, when a unit would shut down, emitting no emissions, it would violate the NSR emission increase criteria by simply restarting the unit.¹ Under the Clinton Administration NSR application, the RMRR exception was greatly narrowed to the point that virtually any activity on a generating unit could trigger NSR for that unit. This narrowing was so prescriptive that efficiency improvements at existing factories and power plants could be NSR violations. The most egregious effect of NSR is to discourage modernization and expansions of factories, refineries, paper companies, steel mills, and power plants because it triggers Prevention of Significant Deterioration (PSD) and Best Available Control Technology Requirements (BACT) requirements that rarely can be economically justified for an existing unit. While NSR has been wielded as a cudgel against coal, recent actions by EPA and environmentalists against natural gas generation indicates that NSR challenges to modernization of factories will not be limited to coal.

Economic Implications in Florida: Corrections to the NSR program would allow utilities and other industries to make improvements and modernize without impairing air quality.² The corrections would enable utilities to make repairs to superheaters, replace economizers, make tubing changes with new materials that do not pit and install new turbine blades, etc., which would improve the efficient operation of the plants

How to Fix the Problem:

Many fine legal scholars, think tanks and public policy institutions³ have written about ways to surgically correct NSR without leaving the door open to NSR abuses. NSR needs to be clearer and to provide bright lines about what is permissible and what is not under RMRR. EPA should work with industry to develop a list of projects that can be categorically excluded from NSR under the RMRR provision of the regulation. This would help eliminate unnecessary NSR permitting that now averages 14 months for power plants and refineries.⁴ FMEA urges EPA to consider many responsible recommendations made for reform.

¹ Until the reinterpretation under the Clinton administration, RMRR was applied to activities on the unit that was typical for that class of unit. In other words, routine repairs replacement and maintenance to a unit that was routine for that class of unit in the industry.

² It should be noted that all major air pollution sources operate under a Title 5 permit which establishes the emission limits for that facility. These emission limits are set at levels that assures no NAAQS will be violated.

³ Including but not limited to Resources for the Future, Indiana University Law School, Heritage Foundation, and others. See Environmental Law Reporter, 47 ELR 10026, “EPA’s New Source Review Program: Time for Reform?”, Environmental Law Institute (ELI), <http://www.eli.org>

⁴ Id, derived from EPA’s RACT/BACT/LAER Clearinghouse 9(RBLC) as described in footnote 30 of ELI article.

Correcting the NSR program does not mean allowing companies and power plants to avoid their responsibilities for reducing pollution under NAAQS, HAP/NESHAP regulations, and other Title I requirements. But power plants and factories should be encouraged to undertake energy efficiency programs and to replace out of date components and equipment in order to be competitive economically as well as reduce air pollutant emission rates. Allowing energy efficiency modernization at power plants and factories can also be a “no regrets” approach.

Cross-State Air Pollution Rule (CSAPR) To Address Downwind Air Pollution Through Good Neighbor Policy¹

On July 6, 2011 EPA issued a rule designed to address ozone air pollution in downwind states under Clean Air Act's Section 110(a)(2)6, Sections, 103 & 320 or 42 U.S.C. Section 7410(a)(2)(K). While addressing air pollution in downwind states is appropriate, EPA's rulemaking was flawed—both in how it was developed and proposed implementation. While the courts, including the Supreme Court, addressed EPA's mistakes in prior transport rulemakings², FMEA offers suggestions on how EPA can prevent these mistakes from happening in future transport rules.

Why It is Broken: EPA's Transport Rule included 28 "eastern" states but EPA did not name all the states potentially affected in the proposed rule. EPA required more reductions than necessary to prevent nonattainment. Modeling downwind effects was based improperly on 2007 baseline data which did not reflect massive reductions in ozone precursors from Federal and State rules including repowering and shutdowns from the Mercury Air Toxics Standard (MATS). Most significantly, the entire program is premised upon the assumption that air pollution transports in directions that defy real world experience. Example; prior attempts to include Florida into CSAPR presumed that air pollution from electric utilities in Florida transported across the Gulf of Mexico and contributed to air pollution in Houston. States did not receive fair or adequate distribution of allowances. CSAPR exemplifies EPA overreach and "hiding the ball" because EPA did not give adequate notice and public comment on all the EPA data published in the Federal Register. Much of the data was hidden in the Notice of Data Availability and difficult to comprehend.

EPA imposed Federal Implementation Plans (FIPs) in 2012 to force states to act without first giving the states "a reasonable time to implement that requirement³."

How to Fix the Problem:

- EPA should provide to the states the annual amount of emission reductions required for an upwind state to avoid impacting a NAAQS nonattainment area or maintenance area in a downwind state. This reduction should not be based on the maximum reduction possible or what EPA considers low cost reductions for that state but what is actually required to comply with section 126 of the CAA.

¹ 40 C.F.R. 40 CFR Parts 52, 78, and 97: "2008 CSAPR Update Rule for the 2008 Ozone Standard - 81 Fed. Reg. 74,504(Oct. 26, 2016), and Air Quality Modeling TSD for the Final Cross-State Air Pollution Rule Update; to be amended by the 2015 CSAPR Update Rule, See Preliminary Interstate Ozone Transport Modeling Data for the 2015 Ozone Standard, 81 Fed. Reg. 1,733 (Jan. 6, 2017); amended 82 Fed. Reg. 8,499 (Jan. 26, 2017).

² The U.S. Supreme Court held in *EPA v. Homer City* 134 S.Ct. 1584 (2014), that EPA may not "over-control" downwind states under the Good Neighbor provisions of the Clean Air Act, and that it may not require any reduction from an upwind state beyond what would be necessary to attain or maintain a NAAQS at a downwind monitor

³ *North Carolina v. EPA*, (D. C. Circuit, 2011).

- When cross state or “good neighbor” policy regulations result in emissions trading and distribution of allowances, EPA should always start the compliance program at the beginning of a calendar year but no sooner than 8 months after the rule is published to allow companies to plan ahead.
- Utility planning time must be adequate to manage capital expenditures, buy or sell allowances, or raise municipal bonds to finance projects. During the 2012-2013 CSAPR trading time the states and companies were not given enough time to develop and use banked credits. EPA should leave development of unit level allocation methodology under all emissions trading programs to states, providing the affected electric utilities with a great opportunity for meaningful input into these important decisions. Power plants must be assured, in implementation of cross state regulatory programs, that the electric utility has adequate generation to meet all state, local and national electric reliability standards. EPA has historically presumed that states (and their utilities) can immediately replace any lost generation capacity due to plant closures. Replacing that generation with natural gas, or renewables (with natural gas as a backup) requires significant advance planning. When EPA conducts any Regulatory Impact Analysis (RIA), EPA should not count the benefits found in other air pollution regulations such as PM or ozone NAAQS or even those pollutants reduced due to NESHAP/HAP regulations. Those reductions should be counted once in the first regulation such as when a NAAQS is revised. In the 2011 CSAPR RIA EPA asserted that the net benefits (over costs) ranged between \$120 and \$280 billion while OMB reported net benefits of \$39.4 billion per year.⁴ Even if the lower cost benefit estimate of \$39.4 billion per year is correct, that figure would represent more than 40% of the \$90 billion in all of EPA regulations’ net benefits claimed by the Obama Administration between 2009 and 2012.
- “Cooperative Federalism” should allow all states (and the regulated parties) sufficient time to develop their own methods for compliance before any FIP is imposed.

⁴ The George Washington University Regulatory Studies Center, www.regulatorystudies.gwu.edu, August 28, 2012.

EPA's Startup, Shutdown, and Malfunction (SSM) "SIP Call" Action Raises Safety Concerns and Is Based on Insufficient Data

Background and Context of SSM Regulations

State regulations establish numerical emission limits on facilities such as boilers and combustion turbines. The numerical emissions limits are often based on full capacity operation.

To address transient conditions that occur during startup and shutdown of the facilities, and to address infrequent malfunctions that may occur at the facilities, states also establish startup, shutdown, and malfunction (SSM) regulations that govern during such events. The state SSM regulations typically include requirements applicable during SSM events, such as using best operational practices to minimize emissions and minimizing the duration of the events.

Under the Clean Air Act's (CAA) federalist framework for emissions reductions, whereby states are assigned the lead role in determining the best way to meet EPA national air quality standards, EPA has previously approved state SSM rules as part of State Implementation Plans (SIPs) under Section 110 of the CAA.

In reaction to petitions filed with the Court and EPA by environmental groups that oppose state SSM rules, EPA quickly entered into a "sue and settle" process with the groups. EPA proposed and finalized a "SIP Call" action requiring 36 states to submit "corrective" SIPs that revise or remove their SSM rules – the same rules previously approved by EPA.¹

A Practical Example of Why Long-Standing State SSM Regulations Are Necessary

Fossil-fueled electric utility steam generating units (boilers) are subject to numerous emission limits and often employ an array of emission control technologies (e.g. electrostatic precipitators (ESPs), flue gas desulfurization (FGD) systems, and selective catalytic reduction (SCR) systems).

For boilers, numerical opacity limits (an indicator of particulate matter emissions) are set by regulation and met by the use of ESP technology during periods of normal boiler operation. But during boiler startups, long-standing state SSM regulations allow best operational practices for the control technologies to limit emissions. This is necessary because initial operation of ESP's must be delayed until flue gas moisture and temperature conditions are reached that allow safe, reliable, and efficient ESP and boiler operation. Also, initial ESP operation must not interfere with safe and reliable operation of other emission control technologies (e.g. FGD and SCR systems) employed by the boiler.

¹ State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls To Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction, Final Action, 80 Fed. Reg. 33840, June 12, 2015.

Similarly, the FGD and SCR systems have specific criteria that must be met for safe, reliable, and efficient operation – and therefore best operational practices for those technologies are allowed during startup to limit relevant emissions, pursuant to current state SSM regulations. A work practice standard or a combination of such standards, to apply in place of a numerical emission limit during startup, is an example of a best operational practice allowed by current state SSM regulations.

EPA's SSM SIP Call Action is Unreasonable and in Many Instances, Unachievable

EPA's analysis of the potential impacts of its SSM SIP Call action on states and sources is inadequate. EPA failed to examine all relevant data and would require states to initiate a massive undertaking of case by case permits, an undertaking that EPA's regional offices are not prepared to oversee in a timely manner, such that the SIP process could be brought to a standstill in some states. Sources accepted numerical emission limitations in their permits with the understanding that work practice standards would apply at all times, including during SSM. Some sources cannot meet the new EPA SSM requirements due to technology limitations (see attached SSM example).

EPA's SSM SIP Call action exceeds EPA's authority and inappropriately limits the rightful authority of states submitting SIPs to select the most suitable mix of emissions controls specific to the circumstances of the state to meet national air quality standards.

EPA should:

- 1) withdraw the SSM SIP Call; and,
- 2) approve the state SSM SIPs that already have been (or will be) determined by the states to be adequately protective of the environment.

FMEA contacts:

Amy Zubaly, Azubaly@publicpower.com

Robert Kappelmann, rbrtkappelmann@gmail.com

Hilary Sills hsills@starpower.net

Theresa Pugh, theresapughconsulting@gmail.com

Issue: EPA's Regulatory Impact Analysis (RIA) Needs to Be Reviewed and Revised to Fully Reflect the Requirements of Executive Order 13563 and Executive Order 12866 along with OMB Circular A – 4

The Problem: While Executive Order 13563 and Executive Order 12866 along with OMB Circular A – 4 provide the agency with guidance on how to prepare a comprehensive benefit cost analysis in the Regulatory Impact Analysis (RIA) process for a proposed regulation, the agency often fails to follow the intent of this guidance by utilizing techniques that overestimate the benefits of the regulation while underestimating the cost. For example, the clear majority of the monetized benefits from EPA air pollution regulations are developed from the calculation of the value of a statistical life (VSL) and premature deaths avoided (PDA). EPA's Inspector General has recommended that EPA use the value of statistical life years (VSLY) to calculate the actual monetized value of PDA. This process, along with taking credit for health benefits below NAAQS, greatly exaggerates the monetized benefit of the regulation. Another major shortcoming is the fact that EPA gives no recognition to the fact that increased regulatory costs often result in reduced medical care and in many cases statistical premature deaths.

In addition, EPA counts the benefits from proposed regulations across statutory programs, referred to as co-benefits, which also overestimates the benefits of a proposed regulation. For example, in the Electric Generating Unit (EGU) Mercury Air Toxic Standard (MATs) regulation EPA counted the health benefits from other pollution reductions found in rulemakings to reduce criteria pollutants including NO_x, SO₂, and Particulate Matter or (PM^{2.5}). However, the Clean Air Act requires the establishment of National Ambient Air Quality Standards (NAAQS) for criteria air pollutants that are to be set at levels that protect the health and welfare of the most vulnerable citizens. The health benefits that EPA attributed to the MATs have already been achieved through the NAAQS process. EPA has incorporated a process in its Regulatory Impact Analysis (RIA) that monetizes health benefits for criteria pollutant reductions below than NAAQS down to background levels. If NAAQS is properly set, there should be no monetized health benefits below the NAAQS level. This practice by EPA should be eliminated.

Solution: EPA's RIA process needs to be reviewed and revised to fully comply with the directives and intent of Executive Order 13563 and Executive Order 12866 along with OMB Circular A – 4. Key revisions need to include: elimination of PDA credits for reducing criteria pollutants below the NAAQS level, taking credit for co-benefits for emission reductions that will be achieved under other Clean Air Act (CAA) regulations and the incorporation of estimated health impacts including PDAs for regulatory costs related to the affordability of healthcare.

FMEA Contacts:

Amy Zubaly, Azubaly@publicpower.com

Robert Kappelmann, rbrkappelmann@gmail.com

Hilary Sills, hsills@starpower.net

Theresa Pugh, theresapughconsulting@gmail.com

Issue: Designating Certain Biomass Fueled Electricity Production As Carbon Neutral for Federal Regulatory Purposes.

Background: Although many peer reviewed studies have shown that combusting biomass for electric energy production produces significantly less air pollution and GHGs when compared to the open burning or natural decomposition of the biomass material, EPA has failed to fully recognize the environmental benefits of utilizing certain biomass fuels for electric energy production in its regulatory actions. Studies indicate that the net greenhouse gas emissions are zero and in some cases the warming potential is actually negative when combusting biomass for energy production as compared to allowing the materials to be open burned or naturally decompose. (See Tables A, B, and C in the appendix to this paper)

Electricity production in the U.S. is currently generated utilizing only a fraction of the renewable biomass available in this country. Analyses by the U.S. Department of Energy and the Union of Concerned Scientists estimate that between 680 million and one billion tons of biomass fuel could be available in a sustainable manner annually.¹ In addition, there is tremendous potential benefit in reducing wildfires by harvesting dead trees for biomass fuel from US forests.²

Problem: For over six years, EPA has been attempting to develop biogenic accounting factors (BAF) that would clearly quantify carbon neutrality for various biomass fuels. In 2011, EPA prepared the “Draft Accounting Framework for Biogenic CO₂ Emissions from Stationary Sources.” In the draft framework, EPA indicated that many biogenic fuels used to power electric generating units will likely be considered carbon neutral. Also, an earlier NREL study confirmed the carbon neutral/negative status of biomass fueled generation.³ In his letter of May 25, 2012 to Dr. Holly Stallworth of the EPA Science Advisory Board, William Hohestein of the USDA concluded “*There is minimal uncertainty that using biomass fuel to generate electricity produces significant greenhouse gas benefits.*” Despite the fact that numerous studies have confirmed most biomass fuel streams are carbon neutral, EPA's Science Advisory Board (SAB) has yet to accept a final accounting framework to establish carbon neutrality for biomass fuels.

Solution: EPA should expeditiously complete and adopt a BAF for biomass fuels. In addition, EPA should establish categorical carbon neutral determinations for various biomass fuel streams previously determined by EPA to be categorical non-waste fuel pursuant to 40 CFR section 241.4. Sufficient scientific data exist to classify these non-waste fuels as carbon neutral without going through the eventual BAF process. Fuels not specifically listed should be added to the categorical list once a BAF indicating carbon neutrality is determined.

¹ US Billion Ton Update: Biomass Supply for a Bio Energy and Bioproducts Industry. ORNL/TM – 2011 – 224. Oak Ridge, Tennessee; The Promise of Biomass Energy Clean Power and Fuel If Handled Right, Union of Concerned Scientists, September 2012.

² The U.S. Forest Service has estimated that there are over 100 million dead trees that have died since 2010 in California alone.

³ The National Renewal Energy Laboratory (NREL) produced a report (NREL/TP-510-32575) which analyzed the use of biomass in the generation of electricity. One of the cases studied biomass that was burned in a boiler in a controlled manner instead of being landfilled or allowed to decompose in the field. Burning biomass in the boiler avoided the production of methane, which has a greenhouse warming potential over 21 times that of CO₂. The study showed a negative Greenhouse Warming Potential (GWP) of -410 g CO₂-equivalent/kWh of electricity produced.

Appendix: Evaluating Air Emissions from Biomass Fueled Electricity Production

Proper Evaluation of Air Emissions from Biomass Fueled Electricity Generation: With the possible increase in the use of biomass fuels, it is appropriate to consider the potential impact on air quality. Some critics erroneously compare emissions from biomass fueled generation to fossil fueled generation. The correct comparison is between emissions from open burning such as forest fires, prescribed fires, and land clearing debris burning and controlled combustion in electric generating units with modern combustion controls and flue gas clean-up devices. Due to superior combustion and the air pollution control systems employed by biomass to energy facilities, the emissions of traditional air pollutants, air toxics and greenhouse gases are a fraction of that from open burning of the similar materials as seen in the tables below.

Table 1. Comparison of Traditional Air Pollutant Emissions from a Biomass Fueled Generation Facility and Open Burning				
Air Emission (lb/ton of Biomass Combusted)	CO	NO_x	PM_{2.5}	VOCs
Biomass Fueled Generation	1.36464	1.19406	0.26	0.15
Open Burning	153.2	3.6	10.8	8

Source: AP – 42, Table 13. 1-2 1996; Emission limits for GREC biomass to energy facility.

Table 2. Comparison of Dioxin Emissions from a Biomass Fueled Generation Facility and Open Burning	
	Dioxin Emissions (lb/ton of Biomass Combusted)
Biomass Fueled Generation	7.2753 X 10⁻¹⁰
Open Burning	3.98157 X 10⁻⁸

Source: Inventory of sources and environmental releases of dioxin like compounds in the United States for 1987, 1995, and 2000. US EPA, November 2006; Emission limits for GREC biomass to energy facility.

Table 3. Comparison of GHG Emissions from a Biomass Fueled Generation Facility and Opening Burning		
	CH₄	N₂O
Biomass Energy Source	lb/ton	lb/ton
Agriculture Byproducts	0.58	0.08
Wood residuals	0.28	0.14
Open Burning Forest Slash	11.4	8.3

Source: EPA AP 42 – Table 1.6 – 3, 1996; EPA Emission Factors for Greenhouse Gas Inventories Updated April 4, 2014.

Biomass fueled Electricity Production does not increase air pollution but rather decreases it by reducing uncontrolled open burning of biomass materials.

EPA's Should Immediately Revise Its Coal Combustion Residuals (CCR) Regulation by Removing the Requirement That Facilities Must Cease Placing CCR and Non-CCR Waste Streams into a CCR Unit within Six Months of a Specific Occurrence

The Problem: EPA's CCR regulation has several onerous requirements that would force an entire plant to shut down within six months after a specific CCR unit (impoundment or landfill) occurrence (e.g. an elevated groundwater monitoring concentration). The shutdown would be required because the regulation requires that placement of CCRs or non-CCR wastewater streams in the CCR unit must cease within the six months. Further, all coal units at a facility using the CCR unit would have to shut down within six months as well as any other electric generating units at the facility using the CCR unit (e.g. natural gas combined cycle generation utilizing the CCR unit for its low-volume wastewater discharges).

For some of the occurrences, the regulation appears to provide an alternative to the six month requirement – but the onerous requirements for the alternative make it illusory. The alternative unreasonably requires the absence of other on-site or off-site CCR disposal capacity, for which an increase in cost or inconvenience associated with other disposal capacity may not be considered.

EPA removed critical provisions from the proposed rule that would allow a more reasonable and flexible approach for monitoring and corrective action based on site-specific conditions. At the time, the rule was self-implementing so the justification for removal was the lack of regulatory oversight. However, the recently-enacted Water Infrastructure Improvements for the Nation Act (WIIN Act) established authority for states and EPA to implement a permitting program for the CCR regulation so the justification for EPA not removing the above substantive provisions of the CCR regulation no longer exists.

The attached table summarizes the regulation sections, types of CCR units affected, and triggering occurrences.

Requested Regulation Revisions

Remove the onerous six-month cessation requirement on the placement of CCRs.

Remove non-CCR waste streams from the regulation section.

Remove the illusory alternative requirement.

Provide that the permitting authority (state or EPA, under WIIN) should work with the owner/operator of the affected CCR unit to determine an appropriate course for corrective action and schedule going forward.

**Summary of Requirements for Six-Month Cessation
of Placing CCR and Non-CCR Waste Streams in a CCR Unit**

CCR Regulation Section	Type of CCR Unit	Occurrence	257.103 Alternative
257.101(a)(1)	Existing Unlined Impoundment	Groundwater Monitoring Concentration	Available; But Must Meet Qualifications
257.101(b)(1)	Existing Impoundment	Location Standard Demonstration	Available; But Must Meet Qualifications
257.101(b)(2)	Existing Impoundment	Safety Factor Assessment	Not Available
257.101(c)(1)	New Impoundment	Safety Factor Assessment	Not Available
257.101(d)(1)	Existing Landfill	Location Restriction Determination	Available; But Must Meet Qualifications

Summary of the 257.101 and 257.103 Regulatory Language

- Except if a section 257.103 alternative can be met (if available under the regulation), if an owner/operator of an applicable type of CCR unit determines that it cannot meet a specified requirement or schedule, the owner/operator must within six months of the determination cease placing CCR and non-CCR waste Streams in the CCR unit, and then must close (or retrofit where allowed) the CCR unit.
- Under the section 257.103 alternative, the owner/operator may continue to receive CCR in the CCR unit (if the alternative is available for the particular occurrence), but only if all conditions for either of two specific options are met:
 - “No alternative CCR disposal capacity” option: To qualify, the owner/operator must show that there is no alternative disposal capacity available on-site or off-site. An increase in cost or inconvenience of other existing capacity cannot be used to support qualification. This option has a five-year limit.
 - “Permanent cessation of a coal-fired boiler(s) by a date certain” option: To qualify, the owner/operator must show that there is no alternative disposal capacity available on-site or off-site. An increase in cost or inconvenience of other existing capacity cannot be used to support qualification. This option requires that the coal-fired unit must cease operation by a date specified in the regulation, and the impoundment or landfill must complete closure by a date specified in the regulation.

FMEA contacts:

- Amy Zubaly, Azubaly@publicpower.com
- Robert Kappelmann, rbrtkappelmann@gmail.com
- Hilary Sills hsills@starpower.net
- Theresa Pugh, theresapughconsulting@gmail.com



Contact:
Joel Ivy
General Manager, Lakeland Electric
Municipal Utility in Lakeland, Florida
Joel.Ivy@LakelandElectric.com
863-834-6541

ISSUE:

Effluent Limitation Guidelines (ELGs) for Steam Electric Power Generating Regulation
ELG rule, 40 CFR 423, was published at 80 FR 67837-67903 (November 3, 2015) and became effective January 4, 2016.

RESPONSIBLE AGENCY:

United States Environmental Protection Agency (EPA)

IMMEDIATE ACTION REQUESTED:

Issuance of immediate guidance to all states requiring an extension of the ELGs deadline for indirect and direct dischargers to enable newly appointed EPA staff sufficient time to evaluate the validity and impact of this substantial regulation.

THE PROBLEM: The ELG rule imposes excessively harsh discharge water requirements for all power plants. The new ELG standards are more stringent than those currently in place for drinking water. To avoid unnecessary waste of resources and compliance costs, a temporary stay is necessary. If the requirements for ELG are not revised, many electric generating units, which were not part of the EPA baseline study, may be forced to cease operation resulting in higher **electric rates to customers and loss of employment.**

SPECIFICS: As an example, consider Lakeland Electric (LE), a municipal utility in Lakeland, Florida with an active coal-fired power plant, McIntosh Power Plant (MPP) Unit 3, that is an **indirect discharger** with an estimated \$6 to \$10 million cost to comply with the ELG rule.

- **Unnecessary Additional Compliance** – MPP Unit 3 wastewater is treated onsite in accordance with the discharge permit issued by the Publicly-Owned Treatment Works (POTW) before being discharged. The POTW then routes the wastewater through a staged wetland treatment system and carefully monitors the water quality before discharging to the environment in accordance with its NPDES permit. All surface water quality requirements are already consistently met.
- **Biased compliance schedule** – Indirect dischargers must be compliant by November 1, 2018. However, direct dischargers have until December 2023 to attain compliance. Both direct and indirect dischargers should have same compliance schedule in a revised rule.
- **Environmental Impact** – The impact occurs at the POTW's discharge point and from plants that directly discharge to the environment. ELG should not impose harsh treatment standards on indirect dischargers because the plants are not discharging to environment. POTW provides additional treatment, is accountable for water quality at its discharge point, and has authority to regulate upstream discharges into its system in order to insure downstream compliance (environmental impact).
- **Excessive Quality Thresholds** – ELG rule is an industrial wastewater standard that requires drinking water quality standards thereby causing LE to immediately spend \$6-\$10 million to comply.

Contaminant	Drinking Water Limit Mg/L	ELG 1 Day Limit Mg/L	ELG 30 Day Limit Mg/L
Mercury	0.002	0.000788	0.000356
Arsenic	0.01	0.011	0.008
Nitrate/Nitrite as Nitrogen	10	17	4.4
Selenium	0.05	0.023	0.012

Message

From: Stephen Van Maren [vanmaren@alliancepolicy.org]
Sent: 5/1/2017 1:54:49 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Follow-up on Letter to Administrator
Attachments: Alliance Letter to EPA Administrator APR2017.pdf

Hi Mandy,

Thanks again for joining our meeting with Sarah Dunham and her team on April 19. Hopefully that was a helpful exchange.

We would like to follow up on our letter submitted to the Administrator on April 14. I attached the letter here, but I believe you already have a copy from our meeting on the 19th. We are now looking into an opportunity to bring together a handful of CEOs from our member companies to meet with the Administrator for further discussion on the topics contained in the letter.

Are you able to advise as to how we should go about setting up such a meeting, be it through the Administrator's scheduler or otherwise?

Thank you in advance for your help.

Steve

Stephen Van Maren

Director

Alliance for Responsible Atmospheric Policy

2111 Wilson Blvd., 8th Floor

Arlington, VA 22201

Tel: (703) 516-4118

Fax: (703) 243-2874

Email: vanmaren@alliancepolicy.org

Website: www.alliancepolicy.org

Follow us on Twitter: [@AtmosPolicy](https://twitter.com/AtmosPolicy)



The Alliance

for Responsible Atmospheric Policy

April 14, 2017

The Honorable Scott Pruitt
 Administrator
 US Environmental Protection Agency
 Office of the Administrator, Mail Code 1101A
 1200 Pennsylvania Avenue, NW
 Washington, DC 20460

Administrator Pruitt:

On behalf of the members of the Alliance for Responsible Atmospheric Policy (Alliance), I congratulate you on your confirmation as US EPA Administrator. We wish you success in your role as the EPA Administrator and we look forward to working with you and your staff in the coming months and years.

Organized in 1980, the Alliance is the leading voice of manufacturers, businesses and trade associations who make or use fluorinated gases for the global market. The US fluorocarbon using and producing industries contribute more than \$158 billion annually in goods and services to the US economy and provide employment to more than 700,000 individuals with an industry-wide payroll of more than \$32 billion. Alliance member companies are leading the development of safe, efficient, next-generation technologies and applications that benefit the US economy and consumers. A list of members is attached.

I am writing in support of EPA's activities to implement US obligations under the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol), its enabling framework, the Vienna Convention for the Protection of the Ozone Layer and Title VI of the Clean Air Act Amendments of 1990. For more than three decades, industry has worked with EPA to incorporate US competitiveness into vital efforts to protect the stratospheric ozone layer. It is critical to continue and fund this work.

As you are finalizing your FY 2018 budget and program proposals, we ask that you support the continued effective implementation of the global Montreal Protocol, including the technology assistance to developing countries directed through the Protocol's Multilateral Fund.

For several decades, it has been a priority of the US to join with other developed countries to provide funding for the developing country transition away from ozone-depleting compounds and into beneficial technologies, many of which are developed and exported by Alliance member companies. The Multilateral Fund has been both vital and successful in assisting developing countries to make the necessary transition toward beneficial technologies that incorporate US innovation.

In addition, Senate ratification of the Kigali Amendment is a key issue to be addressed when timing is appropriate. This will demonstrate US leadership in driving a timely transition. Without leadership from the US government and industry, other countries may fill the void and promote the introduction of

2111 WILSON BOULEVARD, 8TH FLOOR, ARLINGTON, VIRGINIA, USA 22201
 Phone: +1-703-243-0344 • Fax: +1-703-243-2874 • Web: www.alliancepolicy.org

alternative technologies that benefit their own exporting industries, and are not as safe and energy efficient.

The global effort to protect the Earth's ozone layer by phasing out chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) is one of the signature environmental policy successes of the last 40 years, first initiated by President Ronald Reagan and his administration. Every administration since has supported the Montreal Protocol and the amendments associated with it. At the foundation of the Protocol's success is a long history of effective collaboration among industry, government officials and the environmental community. While it is rare for domestic regulatory initiatives to include economic issues as factors in their deliberative process, they are an established component under the Montreal Protocol, at both the global and domestic policy levels.

Over the last three decades, our collaborative efforts have enabled US industry to lead the global technology transition from CFCs to HCFCs to hydrofluorocarbons (HFCs). Policies to implement the Montreal Protocol and Title VI of the Clean Air Act amendments have led to industry's invention of new compounds and technologies that prevent further atmospheric buildup of ozone-depleting compounds while allowing innovative manufacturers to provide high-performance products that are safe, effective and affordable for air-conditioning, refrigeration, fire suppression, foam insulation, solvents, and medical devices. US industry has been the leader in these sectors, which over the last several decades have been significant contributors to a positive balance of trade, valuable jobs for the American workforce and a high quality of life for American consumers. A more comprehensive list of the benefits from advances in those sectors is attached.

Especially in the refrigeration, air-conditioning, and foam insulation sectors, there has been a concurrent transition to higher-efficiency equipment and products, leading to positive impacts for the US energy landscape and American consumers. These technologies have been at the cutting edge of modern industrial development, and identified by many emerging economies as critical to their economic growth. In fact, US industry sees immense opportunities in these emerging economies for the export and dissemination of new US technology.

Although the transition away from ozone-depleting substance is for the most part complete in developed economies, it is only in its early stages in emerging economies. This is of particular concern with regards to the larger emerging economies, including China and India, where the scale of the pending transition has significant technological, economic and environmental implications.

Now that the transition into HFCs is advanced in developed economies, there is global pressure to move once more, this time into new fluorinated and not-in-kind technologies due to concern in many markets for the potential growth in greenhouse gas emissions from HFCs. This latest effort was the subject of the Kigali Amendment adopted by the parties to the Montreal Protocol last October with significant US and global industry support. The amendment fulfills the need of businesses for a sensible, market-based approach to introducing HFC-alternative technologies.

We recognize that the effort underway to right-size the federal budget is fully in line with the campaign commitment of the new administration to make the US government more efficient. As it relates to the EPA budget, the funds utilized for participation in and implementation of the Montreal Protocol have very efficiently met their environmental objective, while helping to sustain US technological leadership in markets worldwide.


We desire efficient and cost-effective implementation of government regulatory initiatives that allows industry to have a voice in the process. Much work remains to be done, particularly with regard to the continued approval of new technologies, the improvement of refrigerant leak-reduction programs and,

consistent with domestic regulatory requirements, implementation of the global phasedown of existing materials and applications under the Montreal Protocol, all while ensuring continued US industrial leadership and success. We are also prepared to make suggestions on ways to improve the administration of the programs at the domestic and international level to achieve the desired efficiencies.

We appreciate you taking the time to consider our views, and we hope to meet with you in the near future to discuss these important matters.

Thank you.

Respectfully,

A handwritten signature in black ink, appearing to read 'KF', is positioned above the printed name and title.

Kevin Fay
Executive Director

Enclosure 1: Alliance Members List

Enclosure 2: Societal Benefits

CC: Sen. Mike Enzi, Chairman of the Senate Budget Committee
Sen. Bernie Sanders, Ranking Member of the Senate Budget Committee
Rep. Diane Black, Chairman of the House Budget Committee
Rep. Todd Rokita, Ranking Member of the House Budget Committee

Sen. Thad Cochran, Chairman of the Senate Appropriations Committee
Sen. Patrick Leahy, Ranking Member of the Senate Appropriations Committee
Rep. Rodney Frelinghuysen, Chairman of the House Appropriations Committee
Rep. Nita Lowey, Ranking Member of the House Appropriations Committee

Sen. John Barrasso, Chairman of the Senate Environment and Public Works Committee
Sen. Tom Carper, Ranking Member of the Senate Environment and Public Works Committee
Rep. John Shimkus, Chairman of the House Environment and Commerce Committee
Rep. Paul Tonko, Ranking Member of the House Environment and Commerce Committee



The Alliance

for Responsible Atmospheric Policy

Members

AGC Chemicals Americas
 A-Gas/RemTec
 Air-Conditioning, Heating &
 Refrigeration Institute
 Airgas
 American Pacific Corp.
 Arkema
 Association of Home
 Appliance Manufacturers
 Auto Care Association
 Bard Manufacturing Company
 BASF
 Brooks Automation, Inc.
 Cap & Seal Company
 Carrier Corporation
 Center for the
 Polyurethanes Industry
 Chemours
 Combs Gas
 Consolidated Refrigerant
 Solutions
 Daikin America
 Daikin Applied
 Danfoss
 Dynatemp International
 Emerson Climate
 Technologies
 E.V. Dunbar Co.
 Falcon Safety Products
 FP International

Golden Refrigerant
 Halon Alternatives Research
 Corporation
 Heating, Air-conditioning &
 Refrigeration Distributors
 International
 Honeywell
 Hudson Technologies
 Hussmann
 ICOR International
 Ingersoll-Rand
 International Pharmaceutical
 Aerosol Consortium
 Johnson Controls
 Lennox International
 Mexichem
 Midwest Refrigerants
 Mitsubishi Electric
 National Refrigerants
 Owens Corning Specialty &
 Foam Products Center
 Rheem Manufacturing Company
 Ritchie Engineering
 Solvay
 Spectrum Brands
 Sub-Zero
 The Dow Chemical Company
 Whirlpool Corporation
 Worthington Cylinder



The Alliance

for Responsible Atmospheric Policy

Societal Benefits of Alliance Member Products

The role of Alliance members' products in our society goes well beyond their contribution to global and regional economies from a manufacturing and employment perspective. They are sold into a variety of industrial markets and incorporated into many products, providing a tremendous value to downstream industries and consumers. Listed below are some ways in which Alliance members' products and industries have provided significant societal benefits:

- ✓ Air-conditioning has played a key role in increasing worker productivity, enhancing health and reducing heat-related illness over the past half-century by keeping individuals comfortable and healthy in hot climates. In fact, MIT researchers have identified a direct correlation between the introduction of air-conditioning in the 20th century and a greater than 80 percent reduction in deaths due to exposure to very high temperatures (Barreca, Clay, Deschenes, Greenstone and Shapiro, 2012).
- ✓ Metered dose inhalers (MDIs) utilizing fluorinated compounds allow for the safe, effective delivery of critical medicines for the treatment of asthma and chronic obstructive pulmonary disease (COPD), which currently do not have a cure.
- ✓ Refrigeration units preserve and protect food for societies around the world. The growth of this technology will enhance the life of products and ensure that the food is reaching a larger percentage of the population.
- ✓ Blowing agents, which provide for increased thermal insulation in foam products, are helping to increase energy efficiency.
- ✓ Mobile air conditioning has become a necessity for passengers' comfort and safety in some one billion vehicles worldwide.
- ✓ The transport of food, drugs, and other products, which require climate control, is possible due to the use of refrigerants. Climate control assures that goods arrive without deterioration and do not endanger public health.
- ✓ The safe application of many materials is enabled through the use of aerosols, which are efficient and easy to use.
- ✓ Our industries provide solutions for novel applications in the solvent and fire extinguisher markets where safety is of critical importance.
- ✓ Our industries have available technologies for the safe, clean destruction or conversion of fluorinated compounds that have reached the end of their life.

2111 WILSON BOULEVARD, 8TH FLOOR, ARLINGTON, VIRGINIA, USA 22201
 Phone: +1-703-243-0344 • Fax: +1-703-243-2874 • Web: www.alliancepolicy.org

Message

From: Stephen Aaron [saaron@mercuryllc.com]
Sent: 5/25/2017 9:04:28 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Re: Cabot Follow-Up

Ha, I'll meet you at either. You pick.

.....
Mercury.

Stephen Aaron
 Senior Vice President
 300 Tingey Street SE | Suite 202
 Washington, DC | 20003
www.mercuryllc.com

On May 25, 2017, at 5:03 PM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Haha- at 2 pm, that's strong!

Sent from my iPhone

On May 25, 2017, at 5:00 PM, Stephen Aaron <saaron@mercuryllc.com> wrote:

Trump Hotel bar?

.....
 Stephen Aaron
 Senior Vice President
 300 Tingey Street SE | Suite 202
 Washington, DC | 20003
www.mercuryllc.com

On May 25, 2017, at 4:54 PM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

I'm free tomorrow afternoon – 2 pm. Meet you at the Trump Hotel Starbucks?

.....
From: Stephen Aaron [<mailto:saaron@mercuryllc.com>]
Sent: Thursday, May 25, 2017 3:59 PM
To: Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>
Subject: Cabot Follow-Up

Mandy,

Would you have a few minutes for me to call or come by tomorrow and touch base quickly on the carbon black initiative?

Thanks

Stephen

.....
Stephen Aaron
Senior Vice President
300 Tingey Street SE | Suite 202
Washington, DC | 20003
www.mercuryllc.com

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Message

From: Birsic, Michael J. (MPC) [mjbirsic@marathonpetroleum.com]
Sent: 5/8/2017 2:48:22 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Connection help

Hey Mandy,

Looking forward to seeing you and Samantha tomorrow. I had two items I wanted to see if you could help me with today. The first one is our chairman of the board, president and chief executive officer, Gary Heminger will be in DC on June 20-21 and we wanted to inquire about scheduling a meeting with the Administrator and Mr. Heminger. We wanted to use this opportunity for the Administrator and Mr. Heminger to get to know each other and obviously talk about some key issues, such as the RFS (our favorite subject!) and air regulations.

The second items I have is to see if you could connect me with Sarah Greenwalt. Tim Peterkoski, our lead on environmental issues for the company is in town on Thursday and wanted to see if she was available for a quick meeting on ELGs. I believe you met Tim at the IECA meeting and he said you mentioned Sarah was the best person to speak to on water issues. Anything you can do to connect us would be much appreciated.

Thank you in advanced for any help you can provide. Sorry we weren't able to connect last week. If you need any more information or have any questions, please let me know.

See you tomorrow,

Mike

Michael Birsic
Marathon Petroleum Corporation
1201 F Street, NW, Suite 625
Washington, DC 20004
Direct: 202-442-2459
Cell: 202-213-2548
Fax: 202-442-2492
mjbirsic@marathonpetroleum.com

Message

From: Tyler Hamman [TylerHamman@lignite.com]
Sent: 5/10/2017 3:38:37 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: [SPAM] Meeting Request on behalf of Lignite Energy Council

Hi Mandy – I hope this finds you well in your new role. A few members of the Lignite Energy Council will be in DC on Thursday, May 18 and I was wondering if you might have some time to meet? The purpose of the meeting would be to reconnect with you and provide some background on issues under EPA's purview that our coal producers are currently working on.

Would you have any availability on the morning of Thursday, May 18th?

Thank you for your consideration of this request, and please let me know if you need additional information. Just as a refresher, the LEC is a regional trade association based out of Bismarck, North Dakota representing coal producers and utilities that produce 4,000 megawatts of electricity in North Dakota, approximately half of which is exported to serve approximately 2 million customers throughout the Upper Midwest.

Appreciate it!

Tyler Hamman
Director, Government Affairs
Lignite Energy Council
701-355-2189

This email has been scanned for email related threats and delivered safely by Mimecast.
For more information please visit <http://www.mimecast.com>

Message

From: Bennett, Tate [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1FA92542F7CA4D01973B18B2F11B9141-BENNETT, EL]
Sent: 5/18/2017 10:40:31 PM
To: doug@deasoncorp.com
CC: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Ferguson, Lincoln [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=08cd7f82606244de96b61b96681c46de-Ferguson, L]
Subject: Tate Bennett Contact info

Hey Doug!

Great meeting you today. I'd be interested to learn more about the Texas Public Policy network/ more opportunities to work together.

Personal Phone / Ex. 6 whenever you get a chance in the coming weeks.

Tate

Elizabeth Tate Bennett
Senior Deputy Associate Administrator
Congressional and Intergovernmental Affairs
Office of the Administrator
U.S. Environmental Protection Agency

Message

From: Thaker, Rahul [rahul.thaker@ncdenr.gov]
Sent: 4/27/2017 7:24:21 AM
To: Szymanski, Tauna M. [tszymanski@hunton.com]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: Fw: Your panel date & time at A&WMA's 2017 ACE

Tauna, Mandy,

Please note the confirmed session timing, advance registration deadline for lower rates, hotel info, and conference info including technical program, etc.

As I said earlier, each panelist will have a maximum 20 minutes for his / her presentation and there will be a Q&A session at the end.

If you are going to have slides for your presentation, please email me a copy by June 2nd. Please also send me a paragraph or so on your bio sketch so that it can help me in introducing you.

If you have any questions, please let me know.

Thank you.
 Rahul

Rahul P. Thaker, P.E., QEP

Environmental Engineer

Permitting Section

NCDENR Division of Air Quality

1641 Mail Service Center

Raleigh, NC 27699-1641
 Phone/Fax: 919-707-8740
www.ncair.org
rahul.thaker@ncdenr.gov

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From: nbernheisel@awma.org <nbernheisel@awma.org>
Sent: Tuesday, April 25, 2017 1:30:50 PM
To: Thaker, Rahul
Cc: maillog@ConferenceHarvester.com
Subject: Your panel date & time at A&WMA's 2017 ACE

Dear Rahul Thaker,

You are designated as a participant in a panel session at Air & Waste Management Association's 110th Annual Conference & Exhibition (ACE) in Pittsburgh, PA, which runs June 5-8, 2017. Your panel session #260246 is scheduled for Thursday, June 8, 2017, from 8:00 AM to 9:40 AM ... Please plan to arrive 15 minutes prior to the beginning of your session to prepare and to upload any slides you may have.

A&WMA is a not-for-profit organization and has a policy that all participants attending the conference must register and pay a registration fee. If you have not done so yet, please register for the conference at <https://www.awma.org/ace2017registration>.

We offer one of our lowest rates for Speakers, Presenters, and Session Chairs. The **Advance Registration Deadline is May 2**, so register now to get lower rates! To defray the cost of registration, A&WMA also offers Monitor opportunities. In exchange for their service, Monitors are eligible for a complimentary technical program half day or full day registration based on the amount of time they are volunteering. For information about the Monitor program, please go to <https://www.awma.org/content.asp?admin=Y&contentid=256>, or contact Gloria Henning at glhenning@awma.org. All other registration questions should be directed to Gerald at garmstrong@awma.org.

The ACE Conference Website is at <https://www.awma.org/ace2017>. Click on the links in the left bar (or if your screen is narrow, scroll to the bottom of the page) to locate more information about the conference, such as registering, making your hotel accommodations, and obtaining the latest information on technical program. The Preliminary Program is now available, and the Final Program will be available soon. Please be sure to book your hotel room early to receive the group rate.

Thank you for all your hard work in preparing for the conference! We're looking forward to seeing you in Pittsburgh.

Best wishes,

Nancy & Lee

Message

From: Hilary Moffett [moffetth@api.org]
Sent: 5/3/2017 2:56:50 PM
To: Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]
Subject: FW: Reconsideration of the Final Rule - Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources (NSPS OOOOa)
Attachments: 2017 05 01 NSPS OOOOa Letter to EPA Administrator Pruitt Final.pdf

Hey Mandy,

Wanted to make sure you saw this letter that we sent to EPA on Monday. Do you have 5 mins to chat over the phone? Would like to walk you through what we see as the highlight of the letter.

Let me know when you have a moment to breath.

Thanks
Hilary

Message

From: Albores, Richard [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=CE14F8709A5E4AC383AF9D0B767FD8AF-RALBOR02]
Sent: 5/4/2017 3:52:01 PM
To: Minoli, Kevin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c9c0070d651a4625ac20258369f9b050-KMINOLI]; OGC ALL USERS [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=06ac12e7c38d42118edda20adaa4c992-OGC ALL USERS]; Dravis, Samantha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ece53f0610054e669d9dffe0b3a842df-Dravis, Sam]; Brown, Byron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9242d85c7df343d287659f840d730e65-Brown, Byro]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Greenwalt, Sarah [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6c13775b8f424e90802669b87b135024-Greenwalt,]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]; James, Nathaniel [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=28eb4c81fe004699bc9f2ee46c615588-NJames]; Durant, Rachiel [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3715503f20df4cbe8836426f236aa6ed-RDURAN02]; Edgell, Joe [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0b6211e5c1204b9e809783bf7561d6b9-Jedgell]; Lynne, Diane [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=21938d4ea5034b178d0eafe84349d713-DLynne]; Anderson, Steve [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=68706e18c9db4843904d764ebf36be51-Anderson, Steve]; Walker, Denise [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b10d83a48a5e4af7a9b1f01465330ff2-Walker, Den]; Margolis, Alan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5357414bcb354f1eb4a707cd418a78cd-AMARGOLI]; Patterson, Nicole [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=496a2a53a4d84dec951413ecc57b04f3-Patterson,]
CC: joe@nteu280.org; Moumbleaux, Joan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=084db8298df54e64a66d2b099ee316e0-Moumbleaux,]; Kime, Robin [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ef7b76087a6475b80fc984ac2dd4497-RKime]
Subject: THANKS and REMINDER re: OGC All Hands Meeting

Thank you all for attending our first all hands of 2017.

A huge thanks to Antonio Haskins for setting up our 4-ring circus! Also, thanks to our distinguished guests for joining us and telling us a little bit about themselves. Welcome, again, to the EPA.

Please send any feedback you have about the VTC, Adobe Connect and audio/video setup and quality to me at albores.richard@epa.gov, or give me a call at 202-564-7102. Hopefully, our next time doing this we will all be in the same room together (except for our remote and teleworking colleagues).

R

~~~~~  
 RICHARD L. ALBORES



Associate Deputy General Counsel \* Office of General Counsel \* U.S. EPA \* 1200 Pennsylvania Avenue, NW \* MC2310A  
\* Washington, DC 20460 \* email: albores.richard@epa.gov \* phone: 202.564.7102 \* mobile: 202.809.8029

-----Original Appointment-----

**From:** Minoli, Kevin

**Sent:** Friday, March 17, 2017 12:51 PM

**To:** Minoli, Kevin; OGC ALL USERS; Dravis, Samantha; Brown, Byron; Gunasekara, Mandy; Greenwalt, Sarah; Bolen, Brittany; James, Nathaniel; Durant, Rachiel; Edgell, Joe; Lynne, Diane; Anderson, Steve; Walker, Denise; Margolis, Alan; Patterson, Nicole

**Cc:** joe@nteu280.org; Moumbleaux, Joan

**Subject:** Adobe Connect link added: OGC All Hands Meeting (Call in number: Personal Phone / Ex. 6)

**When:** Thursday, May 04, 2017 10:00 AM-12:00 PM (UTC-05:00) Eastern Time (US & Canada).

**Where:** 4045, 6013, 7500, and 7530

Hello OGC:

Anyone connecting to the OGC ALL Hands via Adobe Connect (link below) should not call into the 866 audio conference call in number to avoid sound feedback problems.

We would like to be able to see our remote and teleworking OGC staff on the screen via Adobe Connect, so please turn on your video-cameras for this meeting.

**<http://epawebconferencing.acms.com/ogcallhands05042017/>**

OGC Colleagues: The Quarterly All Hands meeting will not be in room 1153 WJC East due to the unavailability of video-teleconference or data connections there due to the renovations of the room. However, we will stick to the May 4 date to give our invited guests time to prepare and certainty on all of our calendars.

We look forward to introducing our new Deputy General Counsels, as well as, other members of the Administrator's Office team. Also, remember if you have any questions you would like addressed by the OGC management team, but are uncomfortable raising them publicly, you should feel free to place them in the OGC suggestion box located in the 7<sup>th</sup> Floor large pantry. Thank you.

Regions: Please inform RTP on which room you will be using if connecting via video. Thank you.

Message

---

**From:** Jay Cranford [cranford@cgcn.com]  
**Sent:** 5/26/2017 9:33:04 PM  
**To:** Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group  
(FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]  
**Subject:** Re: Info

Thank you

Jay Cranford  
CGCN Group  
(202) 689-9296  
[www.cgcnc.com](http://www.cgcnc.com)

---

**From:** Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>  
**Sent:** Friday, May 26, 2017 3:28:26 PM  
**To:** Jay Cranford  
**Subject:** RE: Info

Senior Policy Advisor for the Office of Air and Radiation

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**From:** Jay Cranford [mailto:cranford@cgcn.com]  
**Sent:** Friday, May 26, 2017 4:34 PM  
**To:** Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>  
**Subject:** Info

Mandy, what is your official title at EPA? Thank you!

Jay Cranford  
CGCN Group  
(202) 689-9296  
[www.cgcnc.com](http://www.cgcnc.com)

## Message

**From:** Andy Ehrlich [aehrich@totalspectrumsga.com]  
**Sent:** 5/8/2017 2:47:09 PM  
**To:** Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]  
**Subject:** Re: Meeting request - RFS

Mandy - Thank you!! I will coordinate with Valerie. Best, Andy

Sent from my iPhone

On May 8, 2017, at 10:44 AM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Hi Andy,  
 Would be happy to meet. I've cc'd Valerie Washington who can help set up the logistics for either May 15 or 16.  
 Best,  
 Mandy

---

**From:** Andy Ehrlich [mailto:aehrich@totalspectrumsga.com]  
**Sent:** Monday, May 8, 2017 9:56 AM  
**To:** Dravis, Samantha <dravis.samantha@epa.gov>; Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>  
**Subject:** FW: Meeting request - RFS

Ladies, good morning. Any chance we could meet next Monday? Andy

---

**From:** Andy Ehrlich  
**Sent:** Thursday, May 04, 2017 9:36 AM  
**To:** 'dravis.samantha@epa.gov'; 'gunasekara.mandy@epa.gov'  
**Subject:** Meeting request - RFS

Samantha and Mandy, good morning. I am contacting you to request a meeting with you to discuss the Renewable Fuel Standard. I represent Darling Ingredients Inc., the world's largest rendering and recycling company with about 4,000 employees in the U.S. alone, spread across approximately 140 locations in 40 different states. Their headquarters are in Texas and they have assets in Canada and on five continents. One of their senior executives is a Board Member of the National Biodiesel Board and, as you know, that association has a key federal affairs priority to protecting the RFS. Darling is a joint owner of the largest renewable diesel plant in the country, which is a unique asset which we'd like to speak with you about. The Diamond Green Diesel handout is attached.

A few months ago, we met with Paul Argyropoulos and a few other career policy types, but it would be great to meet with the people in charge of the new Administration's policy. Mike Rath, Senior Vice President of the company, is in town on May 15th (all day) and on May 16 (before 11:30 am) Do you have a 30-minute time slot available for us? And, thank you in advance for your attention to this request. I hope we get a chance to connect.

Andy

**Andrew L. Ehrlich**  
 Partner

**Total Spectrum/Steve Gordon & Associates**

**507 Capitol Court NE #100**

**Washington, D.C. 20002**

**Direct: (202) 546-7252**

**Cell: (202) 997-3515**

**[www.totalspectrumsga.com](http://www.totalspectrumsga.com)**

**Washington, DC – Arizona – Georgia – U.S. Virgin Islands**

<image001.gif>

## Message

**From:** Kime, Robin [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7EF7B76087A6475B80FC984AC2DD4497-RKIME]  
**Sent:** 5/11/2017 10:58:33 PM  
**To:** Larry Schafer [lschafer@dcdiamondgroup.com]; Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]; Bolen, Brittany [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=31e872a691114372b5a6a88482a66e48-Bolen, Brit]  
**Subject:** RE: Biodiesel Meeting Request for week of May 15 --- Biodiesel meeting follow up!

Hi,  
 Let's do a 3:30 call tomorrow. We will add it to the calendars.

---

**From:** Larry Schafer [mailto:lschafer@dcdiamondgroup.com]  
**Sent:** Thursday, May 11, 2017 6:12 PM  
**To:** Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>  
**Cc:** Larry Schafer <lschafer@playmakerstrategies.com>; Bolen, Brittany <bolen.brittany@epa.gov>; Inge, Carolyn <Inge.Carolyn@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>  
**Subject:** Re: Biodiesel Meeting Request for week of May 15 --- Biodiesel meeting follow up!

3 pm?

Larry Schafer  
 202.997.8072

On May 11, 2017, at 5:59 PM, Gunasekara, Mandy <Gunasekara.Mandy@epa.gov> wrote:

Hi Larry,  
 Apologize for the delayed response. Robin or Carolyn, can you help set up a call for Brittany and I this Friday (tomorrow). I'm flexible mid-afternoon.  
 Best,  
 Mandy

---

**From:** Larry Schafer [mailto:lschafer@playmakerstrategies.com]  
**Sent:** Thursday, May 11, 2017 4:49 PM  
**To:** Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>; Bolen, Brittany <bolen.brittany@epa.gov>  
**Cc:** Inge, Carolyn <Inge.Carolyn@epa.gov>; Kime, Robin <Kime.Robin@epa.gov>  
**Subject:** Fwd: Biodiesel Meeting Request for week of May 15 --- Biodiesel meeting follow up!

Mandy and Brittany

Hope you are well

Can we discuss how to make this meeting happen? It's really important to our industry that we have a chance to continue our dialogue with you about the role of biodiesel in the RFS.

Perhaps a call on Friday?

Thank you.

Larry Schafer  
Playmaker Strategies  
202.997.8072

Begin forwarded message:

**From:** "Larry Schafer" <[lschafer@playmakerstrategies.com](mailto:lschafer@playmakerstrategies.com)>  
**Date:** May 11, 2017 at 1:07:56 PM EDT  
**To:** "'Kime, Robin'" <[Kime.Robin@epa.gov](mailto:Kime.Robin@epa.gov)>  
**Cc:** "'Inge, Carolyn'" <[Inge.Carolyn@epa.gov](mailto:Inge.Carolyn@epa.gov)>  
**Subject:** RE: Biodiesel Meeting Request for week of May 15 --- Biodiesel meeting follow up!

Robin and Carolyn:

Thank you.

This meeting is extremely important to our industry. We know that your team is extremely busy. Is Samantha not available for the entire week? If that is the case, then is there a possibility we can meet with Brittany and Mandy?

On our end we have folks that are scheduling flight arrangements-- so we need a couple of days of notice.

Can you give me any insights as to when we might be able to pull something together?

Again, thank you for working with us on this.

=====

<image001.jpg>  
Larry Schafer  
Principal  
Playmaker Strategies, LLC  
750 Ninth St., NW, Suite 650  
Washington, DC 20001  
Phone: (202)997-8072  
Email: [lschafer@PlaymakerStrategies.com](mailto:lschafer@PlaymakerStrategies.com)  
Www: [www.playmakerstrategies.com](http://www.playmakerstrategies.com)

=====

---

**From:** Kime, Robin [<mailto:Kime.Robin@epa.gov>]  
**Sent:** Thursday, May 11, 2017 12:52 PM  
**To:** [lschafer@playmakerstrategies.com](mailto:lschafer@playmakerstrategies.com)  
**Cc:** Inge, Carolyn

**Subject:** Biodiesel Meeting Request for week of May 15 --- Biodiesel meeting follow up!

Good afternoon Mr. Schafer,  
I hope you are doing well. I am sorry but Samantha's calendar is very much in flux. We are not able to confirm a meeting with Samantha next week. We will be in touch with you as soon as that changes.  
Thanks very much for your time and patience.  
Robin

---

**From:** Larry Schafer [<mailto:lschafer@playmakerstrategies.com>]  
**Sent:** Thursday, May 11, 2017 12:05 PM  
**To:** Inge, Carolyn <[Inge.Carolyn@epa.gov](mailto:Inge.Carolyn@epa.gov)>  
**Subject:** RE: Biodiesel Meeting Request for week of May 15 --- Biodiesel meeting follow up!

Carolyn,

Is it okay for me to place this meeting as "confirmed" ? 11:00 to 11:30 am on Wednesday, May 17th?

Do you need anything else from me?

Attendees:

Gene Gebolys, CEO World Energy  
Larry Schafer, CEO Playmaker Strategies  
Anne Steckel, Vice President of Federal Affairs, National Biodiesel Board.

Thank you.

=====



Larry Schafer  
Principal  
Playmaker Strategies, LLC  
750 Ninth St., NW, Suite 650  
Washington, DC 20001  
Phone: (202)997-8072  
Email: [lschafer@PlaymakerStrategies.com](mailto:lschafer@PlaymakerStrategies.com)  
Www: [www.playmakerstrategies.com](http://www.playmakerstrategies.com)

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**From:** Larry Schafer [<mailto:lschafer@playmakerstrategies.com>]  
**Sent:** Wednesday, May 10, 2017 12:15 PM  
**To:** 'Inge, Carolyn'  
**Subject:** RE: Biodiesel Meeting Request for week of May 15 --- Biodiesel meeting follow up!

Would you be kind enough to book that time slot for our meeting?

Attendees:

Gene Gebolys, CEO World Energy  
Larry Schafer, CEO Playmaker Strategies  
Anne Steckel, Vice President of Federal Affairs, National Biodiesel Board.

Thank you.

=====



Larry Schafer  
Principal  
Playmaker Strategies, LLC  
750 Ninth St., NW, Suite 650  
Washington, DC 20001  
Phone: (202)997-8072  
Email: [Lschafer@PlaymakerStrategies.com](mailto:Lschafer@PlaymakerStrategies.com)  
Www: [www.playmakerstrategies.com](http://www.playmakerstrategies.com)

=====

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**From:** Inge, Carolyn [<mailto:Inge.Carolyn@epa.gov>]  
**Sent:** Wednesday, May 10, 2017 12:13 PM  
**To:** Larry Schafer  
**Subject:** RE: Biodiesel Meeting Request for week of May 15 --- Biodiesel meeting follow up!

Yes

*Carolyn Inge  
US Environmental Protection Agency  
Office of Policy  
1301 Constitution Avenue NW  
Washington, DC 20004  
(202) 566-2845-Work*

---

**From:** Larry Schafer [<mailto:lschafer@playmakerstrategies.com>]  
**Sent:** Wednesday, May 10, 2017 11:37 AM



**To:** Inge, Carolyn <[Inge.Carolyn@epa.gov](mailto:Inge.Carolyn@epa.gov)>

**Subject:** RE: Biodiesel Meeting Request for week of May 15 ---  
Biodiesel meeting follow up!

Thanks Carolyn,

Do Samantha and Brittany still have availability from 11:00 to  
11:30 am on Wednesday, May 17<sup>th</sup>?

=====

<image004.jpg>

Larry Schafer  
Principal  
Playmaker Strategies, LLC  
750 Ninth St., NW, Suite 650  
Washington, DC 20001  
Phone: (202)997-8072  
Email: [Lschafer@PlaymakerStrategies.com](mailto:Lschafer@PlaymakerStrategies.com)  
Www: [www.playmakerstrategies.com](http://www.playmakerstrategies.com)

=====

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**From:** Inge, Carolyn [<mailto:Inge.Carolyn@epa.gov>]

**Sent:** Tuesday, May 09, 2017 4:33 PM

**To:** Larry Schafer

**Subject:** RE: Biodiesel Meeting Request for week of  
May 15 --- Biodiesel meeting follow up!

**Importance:** High

Dates for May 15 from Samantha & Brittany  
calendar half hour meeting.

May 15

2:00 - 2:30

3:00 - 3:30

May 16

2:00- 2:30

4:00 -4:30

5:00- 5:30

May 17

11:00 11:30

1:00 1:30

2:00 2:30

5:00 – 5:30

May 18

2:00 -2:30

3:00-3:30

4:00 -4:30

5:00-5:30

May 19

2:30- 3:00

3:30-4:00

4:30-5:00

Carolyn Inge  
US Environmental Protection Agency  
Office of Policy  
1301 Constitution Avenue NW  
Washington, DC 20004  
(202) 566-2845-Work

---

**From:** Larry Schafer  
[mailto:[lschafer@playmakerstrategies.com](mailto:lschafer@playmakerstrategies.com)]  
**Sent:** Tuesday, May 09, 2017 3:40 PM  
**To:** Inge, Carolyn <[Inge.Carolyn@epa.gov](mailto:Inge.Carolyn@epa.gov)>  
**Subject:** FW: Biodiesel Meeting Request for week of May 15 --- Biodiesel meeting follow up!

Carolyn,

Can you help me work to get this meeting scheduled ...  
?

I really appreciate it. Thank you.

=====

<image005.jpg>  
Larry Schafer  
Principal  
Playmaker Strategies, LLC  
750 Ninth St., NW, Suite 650  
Washington, DC 20001

Phone: (202)997-8072

Email: [Lschafer@PlaymakerStrategies.com](mailto:Lschafer@PlaymakerStrategies.com)

Www: [www.playmakerstrategies.com](http://www.playmakerstrategies.com)

=====

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**From:** Larry Schafer  
[mailto:[Lschafer@playmakerstrategies.com](mailto:Lschafer@playmakerstrategies.com)]  
**Sent:** Tuesday, May 09, 2017 3:24 PM  
**To:** 'Bolen, Brittany'; 'Gunasekara, Mandy'; Dravis, Samantha  
**Cc:** Kime, Robin; Inge, Carolyn  
**Subject:** Biodiesel Meeting Request for week of May 15  
--- Biodiesel meeting follow up!

Mandy, Brittany and Samantha:

Since we last met in early April, -- **and on which we agreed to follow up with you with additional information from our industry** -- we have updated information and data that is relevant to helping **your team set the 2018 RVO for Advanced Biofuels.**

The 2018 RFS RVO rulemaking is one of the first rules coming from this EPA and each year this rule is an important one to all of the nation's fuel related stakeholders.

We want to be respectful of your time but also want to make sure you have the clear, concise, and accurate information you need.

We think it is necessary for us to come by your office to provide supporting information and context about where we are headed as an industry – the available domestic supply of Advanced Biofuels far exceeds 2017's 4.28B RIN gallon requirement and the Biomass Based Diesel's available supply far exceeds this year's 2.0B gallon requirement. Given that 2.6B gallons of biomass based diesel were supplied last year even as an estimated 35% of America's domestic capacity sat idle, those facts appear abundantly self-evident. For 2018, the bare minimum of available supply without any straining of capacity whatsoever for Advanced Biofuels is 5.25B gallons and for 2019, for Biomass Based Diesel is 2.75B gallons.

Our meeting with your team from early April was refreshingly straight forward. You made clear that Administrator Pruitt recognizes RFS as the law of the land, that he intends to administer the law as written,

and that your team recognizes the importance of providing clear and timely guidance to all related parties. We want to be helpful to your process and given the importance of this matter to our industry – we want to make sure the data gets to where it is needed.

**Would you be kind enough to provide us with a couple of times for next week – that might be convenient for your team to meet? (Week of May 15<sup>th</sup>)**

Our team consists of Gene Gebolys (CEO of World Energy), Scott Lewis (Executive VP of Biox-WEBB) and Jonathan Phillips (General Counsel of RBF, Port Neches) – representing over 500 million gallons of domestically produced biodiesel. We would also like to bring Anne Steckel, the VP of Federal Affairs with the National Biodiesel Board (NBB). (Gene Gebolys is chair of NBB's working group on the RVO process).

Thank you.

=====  
 Larry Schafer  
 Principal  
 Playmaker Strategies, LLC  
 750 Ninth St., NW, Suite 650  
 Washington, DC 20001  
 Phone: (202)997-8072  
 Email: [Lschafer@PlaymakerStrategies.com](mailto:Lschafer@PlaymakerStrategies.com)  
 Www: [www.playmakerstrategies.com](http://www.playmakerstrategies.com)  
 =====

-----Original Message-----

From: Larry Schafer  
[\[mailto:lschafer@playmakerstrategies.com\]](mailto:lschafer@playmakerstrategies.com)  
 Sent: Monday, May 08, 2017 11:59 AM  
 To: 'Bolen, Brittany'; 'Gunasekara, Mandy'  
 Cc: Kime, Robin  
 Subject: RE: Biodiesel meeting follow up

Mandy and Brittany,

I know you are busy. We really feel that it is urgent that we schedule a follow up meeting with you this week.

Do you have availability on Wednesday (10th) or Friday (12th)

I would like to bring back Gene Gebolys and have Anne Steckel from the National Biodiesel Board join us.

Thank you.

=====

Larry Schafer  
Principal  
Playmaker Strategies, LLC  
750 Ninth St., NW, Suite 650  
Washington, DC 20001  
Phone: (202)997-8072  
Email: [lschafer@playmakerstrategies.com](mailto:lschafer@playmakerstrategies.com)  
Www: [www.playmakerstrategies.com](http://www.playmakerstrategies.com)

=====

-----Original Message-----

From: Larry Schafer  
[mailto:[lschafer@playmakerstrategies.com](mailto:lschafer@playmakerstrategies.com)]  
Sent: Thursday, April 27, 2017 2:53 PM  
To: 'Bolen, Brittany'; 'Gunasekara, Mandy'  
Subject: RE: Biodiesel meeting follow up

Brittany and Mandy,

This is note is to provide a quick follow up to our meeting of two weeks ago as well as to our meeting with OTAQ staff yesterday.

Gene Gebolys and Jonathan Phillips, both of whom you met with, and a small group of biodiesel industry leaders met yesterday with Chris Grundler, Director of OTAQ, and his team, to discuss the upcoming 2018 RFS rulemaking. The purpose was to discuss the in-depth modeling prepared by the National Biodiesel Board's RVO Working Group, of which Gene is the co-chair. This is a highly detailed data driven exercise in which our industry annually shares projections for available production capacity and provides back cast empirical data about the accuracy of our previous projections.

Our earlier meeting with both of you was refreshingly straight forward but yesterday's was less so. You made clear that Administrator Pruitt recognizes RFS as the law of the land, that he intends to administer the law as written, and that your team recognizes the importance

of providing clear and timely guidance to all related parties. In contrast, our group left yesterday's meeting with the impression that that while the OTAQ team recognized EPA's obligation under the law to grow the Advanced Biofuel pool of the program, they felt they lacked any clear policy direction for doing so. For an industry that lives or dies on how these regulations are implemented, that was concerning.

EPA staff advised us yesterday that they understand that the available domestic supply of Advanced Biofuels far exceeds 2017's 4.28B RIN gallon requirement and that Biomass Based Diesel's available supply far exceeds this year's 2.1B gallon requirement. Given that 2.6B gallons of biomass based diesel were supplied last year even as an estimated 35% of America's domestic capacity sat idle, those facts appear abundantly self-evident. For 2018, the bare minimum of available supply without any straining of capacity whatsoever for Biomass Based Diesel is 2.75B gallons and for Advanced Biofuels is 5.25B gallons. Those numbers and the data to support them were shared yesterday with OTAQ. Yet, given the importance of this matter and the lack of clarity in yesterday's discussion we want to make sure the data gets to where it is needed.

The 2018 RFS RVO rulemaking is one of the first rules coming from this EPA and each year this rule is an important one to all of the nation's fuel related stakeholders. I want to be respectful of your time but also want to make sure you have the clear, concise, and accurate information you need. As such, I'd be happy to come by your office at your convenience to provide supporting information and context and / or to answer questions. Please let me know how I can best keep you efficiently informed.

Thank you.

=====

Larry Schafer  
Principal  
Playmaker Strategies, LLC  
750 Ninth St., NW, Suite 650  
Washington, DC 20001  
Phone: (202)997-8072  
Email: [Lschafer@PlaymakerStrategies.com](mailto:Lschafer@PlaymakerStrategies.com)  
Www: [www.playmakerstrategies.com](http://www.playmakerstrategies.com)

=====

-----Original Message-----

From: Bolen, Brittany [mailto:bolen.brittany@epa.gov]

Sent: Wednesday, April 26, 2017 7:16 AM

To: Larry Schafer

Cc: Gunasekara, Mandy

Subject: Re: Biodiesel meeting follow up

Hi Larry - unfortunately, my schedule is packed with back-to-back meetings today.

Best,  
Brittany

> On Apr 25, 2017, at 6:31 PM, Larry Schafer  
<lschafer@playmakerstrategies.com> wrote:

>

> Brittany

>

> Any chance we can stop by tomorrow?

>

> Larry Schafer

> Playmaker Strategies

> 202.997.8072

>

>

>> On Apr 25, 2017, at 3:33 PM, Larry Schafer  
<lschafer@playmakerstrategies.com> wrote:

>>

>> Brittany and Mandy,

>>

>> Hope you are well.

>>

>> As Gene mentioned, he will be in DC tomorrow (4-26). Might you have

>> a few minutes for Gene and me to stop by and update you on our

>> meeting with the staff at OTAQ and to update you on our economic

>> analysis as it relates to the Advanced Biofuels program?

>>

>> We will keep it short.

>>

>> Thanks.

>>

>>

>> =====

>>

>>  
>> Larry Schafer  
>> Principal  
>> Playmaker Strategies, LLC  
>> 750 Ninth St., NW, Suite 650  
>> Washington, DC 20001  
>> Phone: (202)997-8072  
>> Email: Lschafer@PlaymakerStrategies.com  
>> Www: www.playmakerstrategies.com  
>>  
>> =====  
>>  
>>  
>>  
>>  
>> -----Original Message-----  
>> From: Gene Gebolys  
>> [mailto:ggebolys@worldenergy.net]  
>> Sent: Thursday, April 20, 2017 5:55 PM  
>> To: bolen.brittany@epa.gov;  
>> Gunasekara.Mandy@epa.gov; Larry Schafer;  
>> 'Manning Feraci'; Slewis@bioxcorp.com; 'Jonathan  
>> Phillips  
>> (jphillips@rbfuels.com) '  
>> Subject: Biodiesel meeting follow up  
>>  
>> Mandy and Brittany,  
>>  
>> Thanks for taking the time to meet with us last  
>> week. It was really  
>> nice that we were forced out into the beautiful  
>> outdoors and that we  
>> were able to have a really good exchange. We left  
>> that meeting very  
>> encouraged about the new team at the helm at EPA.  
>>  
>> I mentioned then that we were in the final stages of  
>> running our  
>> annual econometric analysis for the upcoming  
>> RVO's. That work is now  
>> complete and I'll be back in DC next Wednesday to  
>> share it with EPA  
>> and USDA career folks. If you would find it useful for  
>> Larry and me  
>> to come by for a short follow up visit, we'd be happy  
>> to do it.  
>>  
>> One way or the other we'd like to get the data in  
>> your hands. It  
>> shows that we have that we have more than  
>> adequate available capacity  
>> to fill an Advanced Biofuels RVO for 2018 of 5.25B  
>> and a Biomass



>> Diesel RVO of 2.75B without substantially pressuring  
RIN values or commodity prices.

>>

>> If you are available for a few minutes on Wednesday  
we'd be happy to

>> come back for part two of our initial visit. If not, I'll  
ask Larry

>> to coordinate with you in whatever way is most  
convenient to both of

>> you to get you the follow up information.

>>

>> Best, Gene

>>

>> Sent from my iPhone

>> Gene Gebolys

>> 617-312-6999

>>

>

## Message

**From:** Wagner, Kenneth [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=048236AB99BC4D5EA16C139B1B67719C-WAGNER, KEN]  
**Sent:** 5/15/2017 5:48:40 PM  
**To:** Smith, Robert L. [RLSmithII@Venable.com]  
**CC:** Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]  
**Subject:** Re: R5 Issue

Wednesday does not work as I am in Annapolis for a Chesapeake Bay meeting. Thursday afternoon could work after 2pm? How long will you need?

Kenneth E. Wagner  
*Senior Advisor to the Administrator*  
*For Regional & State Affairs*  
**US Environmental Protection Agency**  
 Office: 202-564-1988  
 Cell: 202-309-2418  
[wagner.kenneth@epa.gov](mailto:wagner.kenneth@epa.gov)

On May 15, 2017, at 1:43 PM, Smith, Robert L. <[RLSmithII@Venable.com](mailto:RLSmithII@Venable.com)> wrote:

Thanks Mandy.

Ken - nice to e-meet you. I represent PolyMet and we are building the NorthMet Copper and Nickel mine in MN. Might you be available to see us on Wednesday to discuss the project and some of the issues we're having with R5? Thanks.

---

**From:** Gunasekara, Mandy <[Gunasekara.Mandy@epa.gov](mailto:Gunasekara.Mandy@epa.gov)>  
**Sent:** Monday, May 15, 2017 12:14:00 PM  
**To:** Wagner, Kenneth  
**Cc:** Smith, Robert L.  
**Subject:** R5 Issue

Hi Ken,  
 I'm connecting you with my friend Rob Smith (cc'd) who is having some issues out in Region 5 with regards to a mine. I think you would be a good place to start. Let me know if you need help from my end (or Sarah's if it involves water).

Rob, as I mentioned, Ken is the Administrator's go-to person for all things involving in the Regional Offices.

Best,  
 Mandy

\*\*\*\*\*

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\*\*\*\*\*

Message

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**From:** Greg Schrab [gschrab@sm-energy.com]  
**Sent:** 4/28/2017 3:29:43 PM  
**To:** Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]  
**CC:** Teresa Hull [thull@sm-energy.com]  
**Subject:** SM Energy Thanks for AXPC Air Meeting; Fwd: Summary of Subpart W eGGRT Form Changes  
**Attachments:** ATT00001.txt

Mandy,

On behalf of SM Energy, Teresa and I would like to thank you and your colleagues for taking the time to meet with AXPC members on Wednesday afternoon to discuss air issues.

One of the items on the AXPC handout is the GHG reporting program, including revisions to the electronic reporting (eGGRT) forms in February. So I'm including the below email, which SM prepared for Lee Fuller/IPAA and he sent to you before your move from Senate EPW to EPA. It provides some additional detail on this topic.

Thanks,

Greg

Greg Schrab, CHMM, CSP

Corporate EH&S Manager



1775 Sherman Street

Suite 1200

Denver, CO 80203

Office: (303) 864-2567

Cell: (303) 257-5533

[gschrab@sm-energy.com](mailto:gschrab@sm-energy.com)

---

**From:** Lee Fuller [<mailto:lfuller@ipaa.org>]

**Sent:** Monday, March 13, 2017 8:43 PM

**To:** Mandy Gunasekara (EPW)

**Subject:** Fwd: Summary of Subpart W eGGRT Form Changes

Mandy,

I'm sending this material to you even though it's a bit rough because I'm not sure how long you'll be at this email address.

The basic issue is that EPA changed the reporting requirements for the Subpart W forms to include information similar to the ICR. However, no one would have guessed that these changes would be made based on the FR proposal. Then, in mid-February, the new forms were distributed with a March 31 date.

I don't know if anything can be done now, but I wanted to alert you if you haven't seen the issue yet.

Thanks,

Lee

Sent from my iPad

Begin forwarded message:

**Subject: Summary of Subpart W eGGRT Form Changes**

Lee,

Here is what I've come up with. The first section is the generalized overview of the revised eGGRT forms compared to the rule and the ICR. The second section is what I had sent you previously, and gives a bit more detail on the eGGRT form changes. The first section is suitable for a lay person on The Hill or in the administration, the second section could be added to make it suitable for someone in the EPA beach head team with some knowledge of the greenhouse gas reporting rule.

Thanks,

-----  
-----  
-----  
-----

In October 2015 EPA revised the greenhouse gas (GHG) reporting rule for petroleum and natural gas systems, and the final electronic reporting forms were not available in e-GGRT (electronic Greenhouse Gas Reporting Tool) until mid-February (the reporting deadline is March 31). The revised GHG reporting forms are reminiscent of the recently withdrawn Information Collection Request (ICR), because information is being required on an individual well basis in forms that are very burdensome to complete. And as required reporting now rather than record keeping as in previous years, this information will be available under the FOIA, which is also already being used by non-governmental organizations (NGO's) to obtain information submitted under the ICR before it was withdrawn.

Oil and gas was the only sector for which EPA held a specific webinar on GHG reporting changes for calendar year 2016, which include requiring reporting a list of well identification numbers and their operational status (acquired, divested, completed, operating, permanently abandoned). However, similar to the ICR, the revised EPA electronic reporting forms also require design and operational data for the completion, operation, and maintenance of each individual well, instead of by similar well groupings (e.g. sub basin) as allowed by the rule (see below for a summary of changes in the revised reporting forms). This is the turning of what was previously record keeping into a reporting requirement via the revised forms, when not required by the rule. Similarly, the revised rule also allows for reporting of the well identifications and their operational status by similar well groupings, but the revised forms require that this newly-required information be reported for each individual well.

In conclusion, the EPA revised GHG reporting forms for the oil and gas sector appear to require much more information for individual wells than required by the rule, and in a format that like the recently withdrawn ICR is very burdensome in the way it asks for this well-by-well detail.

-----

Summary of changes when comparing the 2015 to the 2016 oil and gas sector reporting forms:

- There is an additional sheet for information:

<!--[if !supportLists]--> <!--[endif]-->(aa)(1) Onshore  
Production is specifically for upstream data collection.

<!--[if !supportLists]--> <!--[endif]-->Table AA.1.iii is new this  
year.

<!--[if !supportLists]--> <!--[endif]-->Table AA.1.iv is also new  
this year: missing data procedures used for well-specific  
parameters.

- **Table AA1.iii:** Each well has at least one row for reporting:

<!--[if !supportLists]--> <!--[endif]-->There are 37 columns for  
each well. Not all will have data, depending upon the  
activity associated with the well last year.

<!--[if !supportLists]--> <!--[endif]-->Number of columns for  
each well activity:

<!--[if !supportLists]--> <!--[endif]-->liquids  
unloading: 9

<!--[if !supportLists]--> <!--[endif]-->well  
completions/workovers with hydraulic  
fracturing: 12

<!--[if !supportLists]--> <!--[endif]-->  
>completions/workovers without hydraulic  
fracturing: 3

<!--[if !supportLists]--> <!--[endif]-->well  
testing: 3

<!--[if !supportLists]--> <!--[endif]-->associated  
gas: 2

- Note the level of well-specific detail that they require to be reported now instead of just retained via record keeping.
- Also note, below is the actual language take from the fact sheet and the final rule regarding the new requirement of reporting well identifications. It appears EPA is requiring more in the revised reporting forms as summarized above than the final rule stipulates.

<!--[if !supportLists]--> <!--[endif]-->**Fact Sheet:** “Requiring the reporting of well identification numbers for Onshore Petroleum and Natural Gas production facilities.”

<!--[if !supportLists]--> <!--[endif]-->**Final Rule {10/22/15 Federal Register, p. 64296}:** “The number of producing wells at the end of the calendar year and a list of the well ID numbers (exclude only those wells permanently taken out of production, i.e., plugged and abandoned). (E) The number of producing wells acquired during the calendar year and a list of the well ID numbers. (F) The number of producing wells divested during the calendar year and a list of the well ID numbers. (G) The number of wells completed during the calendar year and a list of the well ID numbers. (H) The number of wells permanently taken out of production (i.e., plugged and abandoned) during the calendar year and a list of the well ID numbers.”

Message

---

**From:** Kirk Blalock [kblalock@fiercegr.com]  
**Sent:** 5/1/2017 1:55:38 PM  
**To:** Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]  
**CC:** Washington, Valerie [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9d031c02ce3a416dad0d421ee998d5a3-VWASHING]  
**Subject:** Re: Next week (Tuesday)

They are there now to meet with you and the rest of the team. Kirk

---

**From:** Washington, Valerie <washington.valerie@epa.gov>  
**Sent:** Thursday, April 20, 2017 11:53 AM  
**Subject:** RE: Next week (Tuesday)  
**To:** Kirk Blalock <kblalock@fiercegr.com>

Hi Kirk,

Sorry but next Tuesday April 25<sup>th</sup> is not going to work. Can we do the following Monday, May 01 @ 10 or 11am.

Thanks Valerie

---

**From:** Kirk Blalock [ Kirk Blalock [mailto:kblalock@fiercegr.com]  
**Sent:** Thursday, April 20, 2017 8:53 AM  
**To:** Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>  
**Cc:** Washington, Valerie <Washington.Valerie@epa.gov>  
**Subject:** Re: Next week (Tuesday)

Thanks Mandy.

It's 5 people on our end.

Paul Noe  
Tim Hunt  
Jerry Schwartz  
Elizabeth Bartheld  
Me

---

**From:** Gunasekara, Mandy <gunasekara.mandy@epa.gov>  
**Sent:** Thursday, April 20, 2017 8:52 AM  
**Subject:** RE: Next week (Tuesday)  
**To:** Kirk Blalock <kblalock@fiercegr.com>  
**Cc:** Washington, Valerie <washington.valerie@epa.gov>

Valerie,



Can you please work with Kirk to find a time for Sarah and I to meet with AF&PA. We had tentatively set it up for the 25<sup>th</sup> at noon (entitled meet with AF&PA), but that will not work.

Kirk, will you let Valerie know how many people will be attending from your end so she can procure a conference room big enough for us all?

Thanks,  
Mandy

---

**From:** Kirk Blalock [ Kirk Blalock [<mailto:kblalock@fiercegr.com>]]  
**Sent:** Thursday, April 20, 2017 8:35 AM  
**To:** Gunasekara, Mandy <[Gunasekara.Mandy@epa.gov](mailto:Gunasekara.Mandy@epa.gov)>  
**Subject:** Re: Next week (Tuesday)

Tim and Paul are testifying at an EPA Air office small biz deal at 11:30am. I don't think noon will work - is there another day/time next week we can do?

---

**From:** Gunasekara, Mandy <[gunasekara.mandy@epa.gov](mailto:gunasekara.mandy@epa.gov)>  
**Sent:** Thursday, April 20, 2017 8:28 AM  
**Subject:** RE: Next week (Tuesday)  
**To:** Kirk Blalock <[kblalock@fiercegr.com](mailto:kblalock@fiercegr.com)>

Hey Kirk - early morning didn't work for our water expert, but noon does. Will noon work for you?

---

**From:** Kirk Blalock [<mailto:kblalock@fiercegr.com>]  
**Sent:** Thursday, April 20, 2017 6:55 AM  
**To:** Gunasekara, Mandy <[Gunasekara.Mandy@epa.gov](mailto:Gunasekara.Mandy@epa.gov)>  
**Subject:** Next week (Tuesday)

Did you find us a time in the am? 9:30?

Message

---

**From:** Krenik, Edward [edward.krenik@bracewell.com]  
**Sent:** 5/3/2017 2:52:43 PM  
**To:** Gunasekara, Mandy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53d1a3caa8bb4ebab8a2d28ca59b6f45-Gunasekara,]  
**Subject:** RE: Portable Generators!

Mandy,

Thanks for your message on Monday. Sounds like quite a meeting on the Paris Agreement. I heard some reports. Good luck.

If you sent the letter then I can get a copy from CPSC, no problem. If you haven't yet let me know the best way to get a copy and I will do it.

Thanks for all you do.

Ed

---

**EDWARD KRENIK**

Partner

[edward.krenik@policyres.com](mailto:edward.krenik@policyres.com)

T: +1.202.828.5877 | F: +1.800.404.3970

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**From:** Gunasekara, Mandy [mailto:Gunasekara.Mandy@epa.gov]  
**Sent:** Friday, April 28, 2017 7:39 PM  
**To:** Krenik, Edward  
**Subject:** RE: Portable Generators!

Thank you. It's kicked until next week, but I've got a draft. Thanks for contact info.

---

**From:** Krenik, Edward [mailto:edward.krenik@bracewell.com]  
**Sent:** Friday, April 28, 2017 2:44 PM  
**To:** Gunasekara, Mandy <Gunasekara.Mandy@epa.gov>  
**Subject:** Re: Portable Generators!

Mandy,

Hope your day is going great. Don't know where you are with the letter but thought you might like Buerkle's email. [ABuerkle@cpsc.gov](mailto:ABuerkle@cpsc.gov).

Let me know if you need anything more from me.

Have a great weekend.

Ed

Sent from my Verizon, Samsung Galaxy smartphone

---

**EDWARD KRENİK**

Partner

[edward.krenik@policyres.com](mailto:edward.krenik@policyres.com)

T: +1.202.828.5877 | F: +1.800.404.3970

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----- Original message -----

From: "Gunasekara, Mandy" <[Gunasekara.Mandy@epa.gov](mailto:Gunasekara.Mandy@epa.gov)>

Date: 4/21/17 11:47 AM (GMT-05:00)

To: "Krenik, Edward" <[edward.krenik@bracewell.com](mailto:edward.krenik@bracewell.com)>

Subject: RE: Portable Generators!

Ok – perfect. See you in a few.

---

**From:** Krenik, Edward [<mailto:edward.krenik@bracewell.com>]

**Sent:** Friday, April 21, 2017 11:46 AM

**To:** Gunasekara, Mandy <[Gunasekara.Mandy@epa.gov](mailto:Gunasekara.Mandy@epa.gov)>

**Subject:** Re: Portable Generators!

I am coming down 13th Street now. Should be there shortly. I will meet you outside your entrance.

Sent from my Verizon, Samsung Galaxy smartphone

---

**EDWARD KRENIK**

Partner

[edward.krenik@policyres.com](mailto:edward.krenik@policyres.com)

T: +1.202.828.5877 | F: +1.800.404.3970

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----- Original message -----

From: "Gunasekara, Mandy" <[Gunasekara.Mandy@epa.gov](mailto:Gunasekara.Mandy@epa.gov)>

Date: 4/20/17 5:26 PM (GMT-05:00)

To: "Krenik, Edward" <[edward.krenik@bracewell.com](mailto:edward.krenik@bracewell.com)>

Subject: RE: Portable Generators!

Yes! Send me an email when you are close. I can meet you outside or at the Trump Starbucks that is across the street. Whichever is easier for you.

Best,  
Mandy

---

**From:** Krenik, Edward [<mailto:edward.krenik@bracewell.com>]

**Sent:** Thursday, April 20, 2017 5:23 PM

**To:** Gunasekara, Mandy <[Gunasekara.Mandy@epa.gov](mailto:Gunasekara.Mandy@epa.gov)>

**Subject:** RE: Portable Generators!

Mandy,

Does noon work tomorrow?

Ed

---

**EDWARD KRENIK**

Partner

[edward.krenik@policyres.com](mailto:edward.krenik@policyres.com)

T: +1.202.828.5877 | F: +1.800.404.3970

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**From:** Gunasekara, Mandy [<mailto:Gunasekara.Mandy@epa.gov>]  
**Sent:** Thursday, April 20, 2017 10:48 AM  
**To:** Krenik, Edward; Segal, Scott  
**Cc:** Holmstead, Jeff  
**Subject:** RE: Portable Generators!

Ed, can you call me when you have a sec? Personal Phone / Ex. 6

---

**From:** Krenik, Edward [<mailto:edward.krenik@bracewell.com>]  
**Sent:** Thursday, April 20, 2017 10:46 AM  
**To:** Gunasekara, Mandy <[Gunasekara.Mandy@epa.gov](mailto:Gunasekara.Mandy@epa.gov)>; Krenik, Edward <[edward.krenik@bracewell.com](mailto:edward.krenik@bracewell.com)>; Segal, Scott <[scott.segal@bracewell.com](mailto:scott.segal@bracewell.com)>  
**Cc:** Holmstead, Jeff <[jeff.holmstead@bracewell.com](mailto:jeff.holmstead@bracewell.com)>  
**Subject:** Re: Portable Generators!

Hi Mandy,

I hope things are going good for you. I understand you connected with Chairman Buerkle. She told me that you had a nice discussion about the letter.

The comment period for the CPSC proposal ends April 24th. I was wondering if you think you will have your letter finished and submitted by then.

Thanks for all you do.

Ed

Sent from my Verizon, Samsung Galaxy smartphone

---

**EDWARD KRENIK**

Partner

[edward.krenik@policyres.com](mailto:edward.krenik@policyres.com)

T: +1.202.828.5877 | F: +1.800.404.3970

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----- Original message -----

From: "Gunasekara, Mandy" <[Gunasekara.Mandy@epa.gov](mailto:Gunasekara.Mandy@epa.gov)>

Date: 4/4/17 11:58 AM (GMT-05:00)

To: "Krenik, Edward" <[Edward.Krenik@bracewelllaw.com](mailto:Edward.Krenik@bracewelllaw.com)>, "Segal, Scott" <[Scott.Segal@bracewelllaw.com](mailto:Scott.Segal@bracewelllaw.com)>

Cc: "Holmstead, Jeff" <[Jeff.Holmstead@bracewelllaw.com](mailto:Jeff.Holmstead@bracewelllaw.com)>, "Lee, John" <[John.Lee@bracewelllaw.com](mailto:John.Lee@bracewelllaw.com)>

Subject: RE: Portable Generators!

Hi All – Thank you for coming in today. I apologize for the logistical issues and wish we had more time to catch-up, but appreciate your understanding.

I just tried to call Ann Marie and her mailbox was full so I could not leave a message. Do you have an email address I can use to touch base?

Also, if it's easier, you can pass my direct # on to her: 202-564-2314.

Best,  
Mandy

---

**From:** Gunasekara, Mandy

**Sent:** Tuesday, April 4, 2017 10:43 AM

**To:** 'Krenik, Edward' <[Edward.Krenik@bracewelllaw.com](mailto:Edward.Krenik@bracewelllaw.com)>; Segal, Scott <[Scott.Segal@bracewelllaw.com](mailto:Scott.Segal@bracewelllaw.com)>; Washington, Valerie <[Washington.Valerie@epa.gov](mailto:Washington.Valerie@epa.gov)>

**Cc:** Holmstead, Jeff <[Jeff.Holmstead@bracewelllaw.com](mailto:Jeff.Holmstead@bracewelllaw.com)>; Lee, John <[John.Lee@bracewelllaw.com](mailto:John.Lee@bracewelllaw.com)>

**Subject:** RE: Portable Generators!

I'm coming down now – she is out sick today.

---

**From:** Krenik, Edward [<mailto:Edward.Krenik@bracewelllaw.com>]

**Sent:** Tuesday, April 4, 2017 10:40 AM

**To:** Gunasekara, Mandy <[Gunasekara.Mandy@epa.gov](mailto:Gunasekara.Mandy@epa.gov)>; Segal, Scott <[Scott.Segal@bracewelllaw.com](mailto:Scott.Segal@bracewelllaw.com)>; Washington, Valerie <[Washington.Valerie@epa.gov](mailto:Washington.Valerie@epa.gov)>

**Cc:** Holmstead, Jeff <[Jeff.Holmstead@bracewelllaw.com](mailto:Jeff.Holmstead@bracewelllaw.com)>; Lee, John <[John.Lee@bracewelllaw.com](mailto:John.Lee@bracewelllaw.com)>

**Subject:** Re: Portable Generators!

Hey Mandy,

We are downstairs. No Valerie available.

Thanks,

Ed

Sent from my Verizon, Samsung Galaxy smartphone

---

**EDWARD KRENIK**

Partner

[Edward.Krenik@policyres.com](mailto:Edward.Krenik@policyres.com)

T: +1.202.828.5877 | F: +1.800.404.3970

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----- Original message -----

From: "Gunasekara, Mandy" <[Gunasekara.Mandy@epa.gov](mailto:Gunasekara.Mandy@epa.gov)>

Date: 4/3/17 7:48 AM (GMT-05:00)

To: "Segal, Scott" <[Scott.Segal@bracewelllaw.com](mailto:Scott.Segal@bracewelllaw.com)>, "Washington, Valerie" <[Washington.Valerie@epa.gov](mailto:Washington.Valerie@epa.gov)>

Cc: "Krenik, Edward" <[Edward.Krenik@bracewelllaw.com](mailto:Edward.Krenik@bracewelllaw.com)>, "Holmstead, Jeff" <[Jeff.Holmstead@bracewelllaw.com](mailto:Jeff.Holmstead@bracewelllaw.com)>, "Lee, John" <[John.Lee@bracewelllaw.com](mailto:John.Lee@bracewelllaw.com)>

Subject: Re: Portable Generators!

Hey Scott- I'd be happy to meet. I've got time at 10:30 tomorrow. Call Valerie Washington at 202.564.1016 when you get to the North entrance and she'll escort you up.

Best,  
Mandy

Sent from my iPhone

On Mar 31, 2017, at 5:31 PM, Segal, Scott <[Scott.Segal@bracewelllaw.com](mailto:Scott.Segal@bracewelllaw.com)> wrote: